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Monetary Policy during Transition

An Overview

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In transition economies monetary stability goes hand in hand with adjustment in the real sectors. Subsidies and central bank support of public enterprises to help maintain employment and output are ultimately financed by creating money, reducing the options for market-based monetary policy regardless of how market-oriented the monetary system.

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Summary findings

De Melo and Denizer examine monetary policy in 26 transition countries in Europe and Central Asia from 1989 to 1995.

In a socialist economy money and credit are largely determined as a residual. In a market economy monetary policy plays an active role in economic management and economic efficiency is believed to be improved by variety and sophistication in financial instruments.

De Melo and Denizer classify these 26 countries by the extent of market orientation in the use of instruments of monetary policy, by indicators of policy stance, and by broad measures of effectiveness. They evaluate these three dimensions by cross-country comparison over the transition period and at the time of stabilization. They find several clear patterns.

By the end of 1994 slightly fewer than half the countries were relying mainly on market-oriented monetary instruments. More than half exhibited low to moderate reliance on them. Countries that quickly formulated a monetary policy response after the break from central planning were more likely to switch to market-oriented instruments.

Central and Eastern European countries moved more rapidly than countries of the former Soviet Union toward these instruments.

The use of credit ceilings was helpful in the year of stabilization, especially in the Central and Eastern European countries. The elimination of credit controls was associated with effective stabilization.

Policy stance, as measured by base money growth and the real discount rate, was effective in helping to reverse undesirable inflation and disintermediation trends. But the relationship between effectiveness and market orientation of monetary policy instruments is less clear. Financial depth is associated with the elimination of credit ceilings and the development of markets for government paper, and inflation is associated with the elimination of directed credit and the establishment of a market-oriented refinancing window. The overall index of the market orientation of monetary policy instruments is negatively related to inflation, but the direction of causality is unclear.

On balance, inflation control and financial depth seem to be more directly related to policy stance, which is in turn related to broader structural reform.

Monetary stability goes hand in hand with adjustment in the real sectors. Subsidies and central bank support of public enterprises to help maintain employment and output are ultimately financed by creating money, reducing the options for market-based monetary policy regardless of how market-oriented the monetary system.

This paper — a product of the Public Economics Division and the Macroeconomics and Growth Division, Policy Research Department — is part of a larger effort in the department to provide a comparative overview of the progress in transition from a planned to a market economy. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Cynthia Bernardo, room N10-049, telephone 202-473-7699, fax 202-522-1154, Internet address prdpe@worldbank.org. January 1997. (75 pages)

MONETARY POLICY DURING TRANSITION: AN OVERVIEW

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MONETARY POLICY DURING TRANSITION: AN OVERVIEW[1]

Introduction

This paper looks at monetary policy in 26 transition countries in Europe and Central Asia from 1989 to 1995. The purpose is to provide a broad characterization of the experience of these countries as they make the transition from a socialist economy, where money and credit were largely determined as a residual, to a market economy, where monetary policy plays an active role in economic management and where economic efficiency is believed to be enhanced by the variety and sophistication of financial instruments. In the process, we classify countries by the extent of market-orientation in the use of monetary policy instruments, by indicators of policy stance, and by broad measures of effectiveness. The relationships between these three dimensions are evaluated by cross-country comparison over the transition period and at the time of stabilization.

To place the discussion in context, Section A reviews briefly the nature of money and finance under socialism and provides a snapshot of various financial development ratios at the beginning of transition. Section B discusses countries' policy response to transition and distinguishes two groups--one where a monetary policy framework was quickly developed as part of the economic transformation strategy and another where continued participation in the ruble zone and greater ambivalence toward reform resulted in delayed stabilization programs.

In Section C, we look at how monetary policy has been conducted. The focus is on the use of specific policy instruments, for which we identify "late socialism", "transitional", and "market-oriented" forms. We

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[1]. We appreciate comments from Jerry Caprio, Stijn Claessens, Nikolay Gueorguiev, Francoise Le Galle, Piroska Nagy, Fabio Schiantarelli, and Ulrich Zachau on an earlier draft. We thank Nikolay Gueorguiev and Kenneth Xu for their valuable research assistance.

then classify countries by the extent of market-orientation in their use of both direct and indirect instruments. In order to facilitate comparability, we look at market orientation of monetary instrument use around a common event, namely stabilization, and make some observations about similarities and differences across countries.

Section D classifies countries against some crude indicators of policy stance and two broad indicators of effectiveness, namely price stability and financial depth. And in Section E, we look at the interaction between instrument use, policy stance, and effectiveness. The purpose is to see to what extent the use of instruments and policy stance--rather than non-monetary factors such as changes in international terms of trade, trade and exchange rate policies, and the behavior of banks--have affected economic outcomes. Section F concludes.

The standard caveats on data deficiencies apply to this overview, which covers countries affected by regional conflicts and blockades as well as those free of such disruptions. An attempt has been made to provide comparable data across countries, but the quality and the availability of data vary substantially. High inflation in most countries raises questions about both the estimates of changing prices and the deflation methods. Also, since estimates of average stocks of M1 are not available for some countries, it has not been possible to distinguish between movements in M1 and M2. For all these reasons, the emphasis below is placed on broad trends which appear to be robust.

A. Money and Finance Under Socialism

Money under socialism passively accommodated the financing needs of the central plan, which emphasized production in the real sectors. As is well known, central plans set production targets specified in physical units in each sector to ensure a target growth rate for the economy. The emphasis on growth, given labor force and technology, required new investment; and planners determined the level of sectoral investment using investment coefficients derived from detailed input-output studies. An investment plan was then produced by aggregating the sectoral investment needs.[2]

The role of the financial sector was to fulfill the investment plan as well as other financing requirements of the state enterprises and the

[2]. See Alec Nove (1991) for a fuller description.

government budget_all included in the credit plan, the financial counterpart to the physical targets. Planners set targets in real sectors and financial flows were adjusted to achieve them. The central credit plan operated like a global directed credit scheme; interest rates were not a factor in the mobilization and allocation of resources, much less in managing aggregate demand. Money was not a policy instrument, and therefore most instruments of monetary policy found in market economies were not used.

However, this did not mean money and credit were unimportant. For price stability, planners had to ensure a balance between money supply and output. To attain this balance, the system was split into cash and non-cash sectors. Non-cash transactions between enterprises were accounting entries within the financial system and had no effect on the money supply. Cash transactions were undertaken by households, who received their wages in cash. The equality between the wage bill and consumption goods valued at administratively-fixed prices was a key condition for the equilibrium of the system. To the extent that wages paid by the authorities exceeded expenditures on goods sold by state-owned enterprises_often in short supply_money would be printed to finance the gap, generating inflationary pressures (see Sahay and Vegh 1995 for a model of money and prices under socialism).

Similarly, the financial assets of enterprises and households were maintained separately, even though they were all nominally part of the mono-bank system characteristic of socialism. Household deposits were virtually all directed to the Savings Bank; the financial assets and liabilities of enterprises were almost entirely held by commercial and sectoral banks.

In sum, the financial institutions that implemented the central bank's credit plan were passive. They had no role in credit allocation, and the basic legal, accounting, and regulatory systems found in market economies were not in place. Knowledge of enterprises accounts and investment projects was typically located in the central planning agency, not in the banks. With this set of initial conditions, it is not surprising that improvements in resource allocation from financial intermediation have been slow in transition economies (Caprio 1995). We inquire below whether instruments of monetary policy used in market economies can be introduced into such an environment quickly and effectively.

By the beginning of political transition--roughly 1989 for most of Central and Eastern Europe (CEE) and 1991 for the Former Republics of

Yugoslavia (FRY) and the Former Soviet Union (FSU), basic financial ratios in socialist countries were relatively high, as shown in Table 1. Only in Poland and the FRY, where inflation was high in the late 1980s, were overall ratios of M2 to GDP low.

But financial depth did not necessarily indicate financial development, as it does in market economies. Rather, part of the accumulation of financial assets in the banking system reflected a growing disequilibrium, particularly after the mid-1980s, as wages were raised more rapidly than the availability of consumer goods. This was especially the case in the FSU. With limited consumption possibilities, people had no choice but to convert part of their incomes into bank deposits. These forced savings resulted in a sizeable monetary overhang in most socialist countries at the time of the collapse of central planning (see Balcerowicz and Gelb 1995 for estimates of the monetary overhang).

B. The Policy Response to Transition

Countries can be classified roughly into two groups based on the speed of their policy response to the break from socialist central planning. The first group, referred to here as the "fast response" group, consists of most CEE countries (except FYR Macedonia and Romania), the Baltics, the Kyrgyz Republic and Moldova. These countries developed a monetary policy framework as part of their economic transformation strategy relatively quickly. As indicated by the date of adoption of a stabilization program shown in Table 2, monetary or exchange rate targets were put in place within the first two years of transition, with the declared objective of regaining price stability.

Among this group, relatively tight monetary policy was not seen as contradictory to adjustment in the real sector. In fact, the early adoption of a stabilization program appears to be intimately linked to broader reform strategies, as these countries are virtually the same as those that have been elsewhere classified as advanced and high intermediate reformers on economic liberalization (see de Melo, Denizer, and Gelb 1996). Money and credit targets were designed in conjunction with the imposition of hard budget constraints and enterprise reforms, an important element of success (Bruno 1993).

While the objectives of this group were similar, the design of monetary policies differed _ most visibly in the choice of a nominal anchor. For example, Czechoslovakia, Poland, and Estonia adopted

stabilization programs, backed by IMF stand-by arrangements, based on fixed exchange rate regimes after relatively large devaluations. This choice imposes clear constraints on monetary policy to maintain the exchange rate, as further devaluation would severely undermine the program's credibility. It also presumes sufficient foreign reserves, or a sufficiently devalued currency, to maintain the credibility of the nominal peg. For Poland, a major rescheduling of international debt made it possible to adopt this approach.[3] Other CEE countries, Moldova and the Kyrgyz Republic chose money as the main nominal anchor for their stabilization programs. This was largely due to the expectation that without rapid economic liberalization and fiscal adjustment, maintaining a fixed exchange rate would have been hard if not impossible.

After their independence from the FSU, all three Baltic countries moved to a monetary policy framework within the context of a fixed exchange rate regime. Their experience is of particular interest as they succeeded in stabilizing more quickly than other former soviet republics, shifting decisively away from the socialist money and credit framework (Saavalainen 1995). Estonia led the way as the first of the former soviet republics to issue its own currency, the kroon, and in mid-1992 adopted a currency board-type arrangement, where the central bank is strictly prohibited from lending to government or state enterprises and base money is fully backed by foreign reserves.[4] A currency board is sometimes viewed as renouncing monetary policy altogether, but it has the important advantage of insulating policy from vested interests.

Latvia, not having as ample reserves as Estonia, initially adopted a money-based stabilization strategy. After floating an interim currency, which circulated along with the Russian ruble, the government issued a national currency, the lats, in mid-1993. Without publicly committing itself to a fixed exchange rate regime, Latvia has *de facto* pegged its currency to the SDR since early 1994. Lithuania's initial commitment to controlling inflation was less firm than in the other two Baltic countries,

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[3]. See Bruno (1993), Flood and Mussa (1994), Calvo and Vegh (1994) for the issues involved in the selection of the nominal anchor. For a review of performance of exchange rate vs money as the nominal anchor see Sahay and Vegh (1995), Citrin (1995), and Bennett (1994).

[4] It might be noted that restrictions on central bank lending led Estonia to create a variety of budgetary funds that were on-lent through the domestic banking sector to support agriculture, housing, exports, regional development, and small and medium enterprises. By mid-1996, these funds accounted for 10 percent of the net credit to the private sector.

but the government gradually adopted a tough stabilization program. Like Latvia, it introduced an interim currency in mid-1992 and a national currency, the litas, in mid-1993. In April 1994, Lithuania adopted a currency board arrangement, pegging its exchange rate to the dollar.

The second group of countries includes FYR Macedonia, Romania, and most of the non-Baltic FSU countries plus Mongolia. Their slow response was partly the consequence of institutional arrangements following the break up of the FSU.[5] In particular, the non-Baltic FSU countries, including Moldova and Kyrgyz Republic, remained within the ruble zone for a year or more after gaining independence. Under the ruble zone arrangement, all rubles were printed in Moscow and put into circulation by the Russian Federation. But perverse incentives came into play. The new central banks of the non-Baltic FSU countries, formerly branches of the USSR Gosbank, were able to issue non-cash credits to purchase goods from other ruble zone members. In the absence of a central credit allocation body or set of rules governing credit issue, the 11 new central banks were able to issue large amounts of credits and pressure the Russian government to supply them with cash as well as non-cash rubles.

There were many attempts to create an orderly mechanism for credit allocation within the ruble zone, but the objective proved to be elusive, and ultimately non-workable. The lack of agreement on rules of operation and the attempt to maintain existing employment and output provided strong incentives for countries to extract as many resources as possible from the center, the Russian Federation. Indeed, in the early years following the dissolution of the FSU, Russia's financing of other ruble zone members through credit and cash allocations together was quite large--an estimated 11 percent of GDP in 1992 and 7 percent of GDP in 1993 (Dabrowski 1995). Capturing these resources was in fact the main element of monetary policy of most member countries until the ruble zone collapsed in late 1993.[6] Traditional monetary policy objectives were only adopted after issuing national currencies in 1993 and 1994.

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[5] Following the period covered in this paper, FYR Macedonia embarked on a serious program of stabilization and structural reforms, resulting in single digit inflation in 1995.

[6]. See also Conway (1995), Granville (1995), and Aslund (1995) for a discussion of the evolution of the ruble zone and reasons for its collapse.

Why did these countries not follow the lead of the Baltics and take control of money and credit after becoming independent states? Their reluctance in this regard can be seen from several angles. First, their haste to disassociate themselves politically from Russia was not as strong as it was for the Baltics. Second, the geographic location of most of these countries made the alternatives to trade with Russia less promising than they were for the Baltics, and participation in the ruble zone was seen as a means of maintaining existing, extensive trade relations. And third, many of these countries were slow reformers, attempting to maintain employment and the existing production arrangements with directed credits to unreformed industrial and agricultural enterprises. Introducing a new currency to aid in stabilization would have also required a hard budget constraint on these enterprises, suggesting that the overall strategy of transition largely determined the evolution of monetary policy.

C. The Use of Monetary Policy Instruments During the Transition

Availability of Instruments

The beginning of transition marked an end to the passive role played by the financial sector under socialism. Authorities were forced to focus on monetary developments--whether their key policy objective was to regain price stability or maintain employment and output. And the interest in monetary developments was accompanied by a focus on available instruments to affect these developments. Table 3 distinguishes six separate instruments--three direct and three indirect. Other factors also affect monetary developments, including a country's foreign exchange regime and the size of the fiscal deficit, but the instruments shown here are the major conventional instruments relied upon. Directed credit, credit ceilings, and interest rate controls are classified as direct instruments; reserve requirements, refinance/discount facilities, and government and central bank paper are classified as indirect instruments. The discussion here will be confined to them.

In general, direct instruments take the form of regulations while indirect instruments work through markets. As pointed out in Hilbers (1993) and Alexander et al (1995), direct instruments generally set limits on prices and/or quantities and are set in motion by central bank initiative. Indirect instruments are established by the central bank but rely on market determined prices and quantities. As such, they are set in motion by commercial bank initiatives. This difference is not always

as clear-cut as suggested, however; for example, it is not always easy to distinguish directed credit, defined to be at central bank initiative, from a refinance window with preferential rates or access, defined as a facility responding to commercial or specialized bank initiative.

The use of direct instruments does not preclude the use of indirect instruments, or vice versa, and they are often used in combination. But the *form* of instrument use varies. A distinctive feature of Table 3 is the definition of three stages of market orientation for each instrument: "late socialism," "transitional," and "market-oriented."

Appropriate use of instruments

On an *a priori* basis, it was not clear what degree of market orientation would be most effective. On the one hand, there is a general consensus among economists that indirect instruments are more effective than direct instruments in monetary control and that they promote more efficient financial intermediation (Alexander, Balino, and Enoch 1995). Also, there is a view that direct instruments can be abused since by definition they depend on discretionary power. Moreover, direct instruments can be circumvented and hence rendered less effective, especially where countries, such as the Baltics and those in CEE, have an open capital account.

On the other hand, while it is desirable in principle to switch to indirect monetary control methods, several observers (Bredenkamp 1993, Mathieson and Haas 1994, and Hilbers 1993) point out that prevailing conditions in transition economies may not warrant their rapid adoption and use. Noting that the effectiveness of indirect instruments depends on the quality and nature of transmission channels_and noting the close links between financial sector reforms, banking reorganization (e.g. privatization, new entry mergers), establishment of an effective legal framework, monetary policy framework, capital markets, and other structural reform policies_these researchers raise two fundamental problems that can be expected to reduce the effectiveness, and hence discourage the use, of more market-oriented instruments during the transition.

The first problem is the large share of non-performing loans in the portfolios of many banks at the beginning of the reform process. With the administrative allocation of resources and soft budget constraints

characteristic of the socialist economy, enterprises were allowed to service their loans through fresh borrowing or debt-rollover without any tests of their economic viability. The collapse of trade arrangements and sharp changes in relative prices accompanying transition adversely affected the profitability of many enterprises, undermining their ability to service their loans.

Thorne (1993) estimated that at the end of 1991 non-performing loans were 37 percent of total bank lending in Romania and 50 percent in Hungary (see also Dittus 1994). More recently, the World Bank has estimated that almost 80 percent of the financial sector portfolio in the Kyrgyz Republic was non-performing. The main reason was the structural demand shift and relative price changes which made enterprises unprofitable and hence unable to service previously contracted debts. The policy response of the authorities, particularly in the FSU, did not help to improve things. Most FSU governments continued with directed credit policies and in effect ordered banks to lend to unprofitable enterprises. As a result, the banks_already technically insolvent given their non-performing assets_became dysfunctional.

As many transition countries lacked an adequate prudential regulation framework, this led to the second, related, moral hazard problem, with insolvent banks continuing to operate and obtaining more funds_from the central bank by persuasion and from the public by raising interest rates. Under such circumstances, interest rates do not serve their allocation role; and, since indirect monetary control methods assume that interest rates allocate funds efficiently, a rapid substitution of indirect instruments could aggravate an already difficult situation. In fact, as a result of this situation in some countries, Kyrgyz Republic for example, the central bank screened commercial banks for solvency before they were permitted to participate in central bank auctions.

These circumstances suggest that abolishing direct instruments quickly could be premature and also that there is a sequencing issue for monetary reform, requiring prior and parallel reforms in the banking and enterprise sectors. Thus, the introduction of indirect instruments needs to be seen in the context of broader financial and enterprise sector reforms.[7]

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[7]. See Alexander et al (1995) for further discussion of the benefits and costs of using direct and indirect instruments.

Experience with direct and indirect policy instruments elsewhere offers some guidance on the pace of adoption and use in transition economies. As recently reviewed by Farahbaksh and Sensenbrenner (1996), direct instruments, especially credit ceilings, were used in a number of OECD countries during the 1960s, 1970s and 1980s. France, for example, maintained credit ceilings for almost 20 years, until 1987. However, the general trend in OECD countries has been toward reliance on indirect instruments. Many developing countries have also moved toward more indirect instruments; however, credit ceilings are still regarded as useful in other countries for several reasons. One is the ease of implementation and the perception that ceilings facilitate the achievement of monetary and credit targets. Another is that ceilings can be coordinated with directed credit to priority sectors--a common practice in developing countries. And finally, the relatively limited technical capabilities of the monetary authorities in many developing countries have inhibited the adoption of more indirect instruments.

Use of Instruments During Transition

The analysis here was carried out in two steps. First, we prepared 26 country data sheets, which indicate the use of instruments according to the schema in Table 3; these are included in Annex 1. Then we classified each instrument in each country in each year as market-oriented or not, according to the following criteria:

> **For direct instruments:** Market-orientation is defined by *low* reliance on the three direct instruments in Table 3 as indicated by: (a) central bank directed credit less than 25 percent of total credit; (b) an absence of bank-by-bank credit ceilings (some of which may have been replaced by an overall ceiling on central bank net domestic assets); and (c) an absence of restrictions on deposit and loan rates.[8]
>
> **For indirect instruments:** Market-orientation is defined by the introduction and use of market-oriented forms of indirect instruments, namely: (a) maximum reserve requirements equal to 12 percent or less; (b) a refinance window with auction or non-preferential rates and/or rediscount/lombard facilities; and (c)

[8]. These criteria are suggested by Alexander et al (1995).

government or central bank paper used for monetary operations or actively traded in a secondary market.

Table 4a summarizes the findings, which are used to create an index of market orientation for each instrument, an overall index of MOMPI (Market Orientation of Monetary Policy Instruments), and dummy variables for use in the regression analysis in Section E.

During the early phase of transition, all countries seem to have used at least one and often all three direct instruments in the implementation of their monetary policies. Moreover, by late 1994, most countries still had maximum ratios above 12 percent--the somewhat arbitrary level designated above as the cut-off between the direct versus indirect use of this instrument. And some countries had retained interest rate controls and had not yet developed a market for government paper. Other countries, however, had a high or substantial market orientation. On average, CEE countries and "fast response" countries switched more quickly from direct to indirect instruments, but variation within these groups can also be observed. A brief description of the use of instruments during transition follows:

Directed credit. As late as 1990, all countries except Hungary and Poland had large directed credit programs inherited from the central plan period. These programs, financed by central bank credit channeled through commercial banks at preferential interest rates, were used to support enterprises in designated sectors, usually including agriculture. About half the countries sharply reduced the share of directed credit with the beginning of reform, and by 1995 the share of directed credit in total credit had fallen to under 25 percent in many countries, although it remained high in "slow response" countries. In these latter countries, directed credits were retained and channeled to state enterprises at subsidized rates, leading to large quasi-fiscal deficits and high inflation (see de Melo et. al 1996).

Credit ceilings. Credit ceilings were used in several CEE countries in the early 1990s, but the effectiveness of implementation varied. In the Czech Republic, for example, ceilings on commercial bank credits were enforced strictly by the authorities. In Bulgaria, ceilings were exceeded in 1992, and it was only in 1994 that monetary aggregates were brought under control and credit ceilings removed. Most "slow response" countries did not use credit ceilings; limitations on credit expansion would have been inconsistent with the authorities' strategy of using directed credit to maintain employment and output in state enterprises.

Interest controls. Interest rates on bank deposits and loans have been market determined since late 1992/early 1993 in most "fast response" countries. The removal of interest rate controls, however, has involved some difficulties and has not always led to positive, moderate real rates, as expected. On the one hand, there are cases, such as Romania, where interest rates were liberalized during the early days of transition but, as a result of collusion among banks, did not become positive before late 1994. On the other hand, there are countries, for example Slovenia and Macedonia, where real interest rates were quite high. Moreover, many countries in the FSU, as well as Albania, have removed interest rate controls more gradually than those in CEE, even allowing for a two year difference in the start of reforms. About half these countries have relied on minimum and maximum interest rates, as well as controls on margins. The others have maintained direct controls on nominal deposit and loan rates and, except in Albania, the resulting real rates have been highly negative over the last couple of years, contributing strongly to disintermediation and undermining attempts at stabilization.

Reserve requirements. Reserve requirements were put in effect by all countries soon after the beginning of reforms. Enforcement lagged especially in the non-Baltic FSU, but by 1995 most central banks were able to enforce them relatively effectively. Ratios were high initially, presumably due to high inflation and the desire of authorities to absorb liquidity. In the non-Baltic FSU, reserve ratios were frequently changed, with a tendency to raise the level to absorb liquidity, contributing to the disintermediation trend discussed earlier. Many CEE countries lowered reserve ratios over time, although in Croatia they rose to 34 percent in mid-1995.

Refinance window. Most countries also introduced a refinance window, but its use differed. Countries in CEE were more likely to use this instrument in a market-oriented and non-interventionist fashion without preferential access. The refinancing rate was set at the central bank discount rate or established on the basis of auctions. In some countries, there remained small amounts of refinancing for agriculture or housing. Rediscount and Lombard facilities were put in place, and their importance seems to have increased over time. By 1995 commercial bank borrowing from the central bank was mostly carried out through the use of this instrument. In many FSU countries, refinancing facilities were often used to direct credit for specific purposes at preferential rates. The rediscount and Lombard facilities are not as extensively used.

Market for government paper. Government, and in some countries central bank, paper was introduced relatively early in CEE countries.[9] In Hungary, this instrument existed since 1988 and by 1993 monetary policy was being implemented mostly through open-market-type operations, using government paper. While some other countries have introduced secondary market trade, it is limited and government paper typically is not used for open-market-type operations. In the non-Baltic FSU, this instrument may have been introduced but is typically not yet developed.

By late 1994, there was substantial diversity in the extent to which transition countries were relying on market-oriented instruments of monetary policy. We can distinguish four groups on the basis of the data in Table 4a, which classify the market-oriented use of six different instruments:

[9]. For issues involved in the use of government versus central bank paper see Quintyn (1994).

Table 4a. Market Orientation of Monetary Instruments at end-1994

High	Substantial	Moderate	Low
Bulgaria	Croatia	Albania	*Armenia
Czech Rep.	Lithuania	*Azerbaijan	*Belarus
Estonia	*FYR Macedonia	*Georgia	Kyrgyz Rep.
Hungary		*Kazakstan	Moldova
Latvia		*Mongolia	*Turkmenistan
Poland		*Russia	*Tajikistan
*Romania			*Ukraine
Slovak Rep.			
Slovenia			

High: 5 or 6 instruments
Substantial: 4 instruments
Moderate: 3 instruments
Low: 1 or 2 instruments

* Countries stabilizing relatively slowly (see Table 2).

As of end-1994, countries with "high" market orientation met all, or almost all, the criteria of market orientation specified above. To the extent that these countries still relied on direct instruments, they used market-oriented forms; also, they have all introduced the main indirect instruments used in market economies. The speed of introduction differed, reflecting the pace of broader structural reforms, including solving the non-performing loan problem. For example, the Czech Republic eliminated almost all direct controls in 1992, whereas Bulgaria phased them out in 1994.

Countries with "substantial" market orientation use both direct and indirect instruments for policy making purposes; in some countries, there have been policy reversals. Implementation difficulties are common, often as a result of lack of parallel financial sector reforms. Countries with "moderate" or "low" market orientation continue to rely on

either directed credit or interest rate controls, or both, to influence money and credit. They typically have high reserve requirements and have not developed secondary markets for government or central bank paper. However, most have introduced a refinancing facility based on auction or non-preferential interest rates.

Figure 1 shows the average differences in CEE and FSU countries from 1990 through 1994, at which time the CEE countries had switched almost entirely to market-oriented instruments while FSU were clearly relying on a combination of both market and non-market instruments. The decline in market-orientation of FSU countries after 1991 was primarily due to the increase in reserve ratios, designed to absorb liquidity in a highly inflationary environment.

Instrument Use around Stabilization

One difficulty in cross-country comparisons of transition economies is that reforms were initiated at different points in time. In an attempt to control for the timing of reform, we look here at how instruments were used at the time of stabilization. Figure 2 shows the sequencing of market-oriented use of monetary instruments during the year of stabilization (year T, as shown in Table 2) and also during the years before (year T-1) and after (year T+1). With the exception of credit ceilings, which were reimposed by several CEE countries during the year of stabilization, countries on average shifted progressively toward market-oriented instruments. As indicated above, FSU tended to raise reserve requirements as inflation persisted, but CEE countries typically reduced reserve ratios and switched from directed credit programs to a more market oriented refinance window.

Tables 4b and 4c organize the data in Table 4a to show the market orientation of instrument use in CEE and FSU countries around the time of stabilization (year T). The "grand total" for each country is used to define an annual country index for the Market Orientation of Monetary Policy Instruments (MOMPI), used in some simple correlations reported below. The average "scores" on market orientation permit a comparison between CEE and FSU countries at any point in time. It indicates, for example that FSU countries were actually slightly more market oriented than CEE countries in the year before stabilization, perhaps because stabilization occurred somewhat later relative to the beginning of transition; however, they moved more slowly toward market orientation during and following stabilization.

Table 4d shows the average market orientation for specific instruments in index form around the time of stabilization. The indices for "all countries" show that almost all countries had contained directed credit and replaced it with a market-oriented refinance window, and most countries had removed interest rate controls, by the year following stabilization. The use of credit ceilings shows as different pattern, in that countries increased their reliance on credit ceilings during stabilization. This was particularly true in CEE and "fast response" countries. Indices for country groups also point up the much slower movement in FSU and Mongolia on the removal of interest rate controls, the adoption of more moderate reserve ratios, and the development of markets for government paper. These differences exist, but to a lesser degree between "fast-response" and "slow-response" countries.

The relationship between the adoption of market-oriented instruments and the choice of a nominal anchor in a country's stabilization program is shown in Table 4e. In general, countries relying on an exchange rate anchor, either initially or following an initial reliance on a monetary target moved quickly toward more market-oriented monetary policy instruments, while countries relying exclusively on a money anchor did not. In particular, all countries using an exchange rate anchor contained the amount of directed credit and removed interest rate controls.

D. Monetary Policy Stance and Effectiveness

Here we define some indicators of monetary policy stance and effectiveness, in order to relate them to the introduction of market oriented instruments. No attempt is made to define policy stance in relative terms_for example, relative to the current rate of inflation or to changes in the demand for money_although this would be an important consideration in the formulation of monetary targets. Rather, several simple nominal indicators of average policy stance are considered, and base money growth is chosen as the most appropriate indicator for purposes of classification. Inflation and financial depth are used as indicators of policy effectiveness.

Policy Stance

Four simple indicators of monetary policy stance are provided in Table 5: the average growth rate of base money, which reflects the use of directed credit and refinance facilities as well as central bank financing of the fiscal deficit; the average growth of broad money, which is

influenced by reserve requirements as well as inflation and other factors; the effectiveness of credit ceilings; and the average real discount rate in 1992-94. The average growth of base money is used as the classification criterion to organize countries in to three groups:

Group 1: moderate
Group 2: loose
Group 3: very loose

It is clear from the group averages that other indicators of policy stance are consistent with this one.

On the one hand, given the void in enterprise governance, especially in the early stages of transition, tight monetary policy forces reallocation of resources toward more productive uses, thus generating growth. On the other hand, as argued by Portes 1993 and Calvo and Coricelli 1993, monetary policy can be too tight, restricting growth. On balance, however, the most recent literature suggests output recovery has occurred in countries that had relatively tight monetary policies (Citrin et. al. 1995 and Sahay and Vegh 1995), possibly because nowhere was average annual base money growth less than 20 percent.

Effectiveness

We can identify three plausible objectives of monetary policy: price stability; financial depth, as a determinant of economic growth, and growth itself. Table 6 provides data for 1990-94 on all three objectives-_lower inflation, greater financial depth, and higher real growth in GDP. Countries are grouped, as above, by policy stance, and it can be seen that achievement of these objectives is associated with a moderate policy stance (Group 1), suggesting that it may have been relatively tight but was not too tight.

In the econometric analysis which follows, we take only price stability and financial depth as measures of effectiveness. Price stability is the traditional objective of monetary policy, and the relationship between financial depth and growth is explained in the remainder of this section. Growth itself is not used as a measure effectiveness here, as too many other factors affect it to try to separate out the effect of market-oriented monetary instruments.

The importance of financial depth in development was stressed by Mckinnon and Shaw in the early 1970s. Subsequent cross-country comparisons have largely confirmed this relationship (see King and Levine 1993, Fry 1995). The basic idea is that the level of financial

intermediation is a proxy for the level and quality of financial services, including entrepreneurial selection, and that effective financial services promote growth through both capital accumulation and improvements in economic efficiency.

Transition from a command economy to a market economy has, however, been accompanied by a collapse in financial ratios in many countries. Table 7 compares the average annual ratios of domestic broad money to GDP in transition economies to those in other countries classified by income level. As shown, this ratio is higher for high income countries, and in recent years financial depth has increased in high-income countries. In 1989, at the beginning of transition, CEE and FSU countries also had relatively high financial ratios on average. But by 1993/94 financial ratios had declined and, in CEE countries, were comparable to those in lower-middle income countries. Ratios in all FSU countries and Mongolia fell dramatically and by 1993/94 had dropped well below those in low-income countries. These trends can be compared to the experience of transition countries in East Asia, namely China and Vietnam, where financial depth has increased.

There are a number of factors that might cause disintermediation and account for the large differences observed in CEE and FSU countries. One factor is the elimination of the monetary overhang, which appears to have been larger in the FSU (see de Melo et al. 1996). Declines in financial ratios in some countries, however, exceed rough estimates of the monetary overhang as a percent of GDP. Other factors are inflation and highly negative *ex ante* and *ex post* real interest rates, especially in FSU countries; these have resulted in an erosion of financial savings and little incentive to hold domestic currency in any form. Yet another factor appears to be informal credit in the form of inter-enterprise arrears (see Citrin et al. 1995). Such credit may substitute for M1 and thus help to explain the observed high velocity in certain transition economies. Also, credibility of reforms and hysteresis effects may account for continuing high levels of currency substitution; foreign currency deposits remain high relative to M2 in Poland and the Czech Republic, for example, despite stabilization and growth (Calvo and Sahay 1995).

In Section E below, we investigate the extent to which financial depth may be affected by the market-oriented use of monetary instruments. The focus is on domestic liquid liabilities, as they allow the government to generate investible resources in the form of seignorage. The evolution of this ratio in relationship to policy stance is shown in

Table 6, and Figure 3 shows that a similar pattern exists for the evolution of total broad money (including foreign exchange deposits)/GDP.

E. Effectiveness, Stance and Instrument Use

Association of Effectiveness, Stance, and Instrument Use during stabilization

Table 8 integrates the three dimensions of monetary policy developed above: market-orientation of instrument use, policy stance, and effectiveness. Classifications are based on criteria used earlier and applied to the year of stabilization and the year after (see notes to Table 8 for further explanation). Three broad observations can be made.

First, neither policy stance nor effectiveness depends on the market-orientation of instruments. Albania has implemented a relatively tight monetary policy with low market orientation, and Mongolia has implemented in program that proved effective with low market orientation. (Estonia is somewhat of a special case, where the adherence to a currency board, which may be the ultimate market-oriented instrument, pre-empts the use of more traditional market-oriented instruments.)

Second, Table 8 suggests an association between market-orientation of instruments, moderate policy stance, and effectiveness in the CEE countries and lack of market orientation, loose policy stance, and ineffectiveness in the FSU countries. This association is due to a variety of factors including differences in initial conditions and in the pace of liberalization. CEE countries liberalized earlier and to a greater extent, although the Baltics were not far behind. Initial macroeconomic distortions and dependence on socialist trade were lower in CEE countries, and more favorable experience with inflation and output loss there may have made it easier to conduct a more moderate monetary policy. For the non-Baltic FSU, adherence to the ruble zone_a policy which appeared initially to have some merit but subsequently to delay reform_bound these countries together in a roller-coaster ride into hyperinflation and large declines in real output, both of which lowered dramatically the transactions demand for money.

And third, it seems clear that the FSU countries showing the lowest market-orientation and the loosest monetary policy continue to rely on rationing through directed credit and interest controls because

direct controls serve their purpose, to provide support to state enterprises despite their failure to restructure. The need for further institutional development is no doubt a limitation, but other FSU countries with similar underdeveloped institutions have made faster strides. Russia and the Kyrgyz Republic, for example, have introduced screening criteria to distinguish better managed, more solvent banks so that market-oriented policy instruments can be introduced on a limited basis in a more stable environment. In reality, it seems that it is not so much underdeveloped institutions that limit policy effectiveness but the policy goal, which limits the shift to the full range of market oriented monetary instruments.

Simple correlations between base money growth, inflation, and the MOMPI index around the time of stabilization are given in Table 9. As expected, the correlation between base money growth and inflation is positive and high, although less high during stabilization in the FSU and "fast response" countries. This suggests that the problems of stabilizing quickly in the Baltics, Moldova, the Kyrgyz Republic and Mongolia were more complex than in CEE countries. There is a strong negative correlation between base money growth and the use of market-oriented instruments in "slow-response" countries the year before stabilization, suggesting that the most rapid money growth took the form of highly subsidized directed credit. This interpretation is consistent with other evidence that stabilization was undertaken at varying stages of reform. Using the cumulative liberalization index (CLI) developed in de Melo, Denizer and Gelb 1996, most countries were at an intermediary stage, between .5 and .8 on a scale of 0 to 1. However, Mongolia and several FSU countries--namely, Armenia, Azerbaijan, Belarus, Georgia, Kazakstan, Tajikistan, and Uzbekistan--stabilized with a CLI between .35 and .45, indicating less reform; and Ukraine attempted stabilization in late 1994 with a CLI of only .26.

Inflation and the MOMPI index were positively and relatively strongly correlated in CEE countries the year before stabilization. But this is not necessarily evidence that the move toward market-orientation was premature; rather, it probably reflects the fact that a switch to market-oriented monetary instruments coincided with price liberalization in these countries. These same two indicators were negatively correlated in "slow response" countries the year prior to stabilization, suggesting that price liberalization had already taken place and that a switch to market oriented instruments may have coincided with real structural reforms implemented prior to stabilization. In the year after stabilization, market orientation was negatively associated with both

base money growth and inflation for all country groups, suggesting that they were more effective than not.

Effectiveness and market-oriented use of instruments

Next, using regression analysis, we explore to what extent the market-oriented use of instruments may have promoted or deterred effectiveness. Policy stance is taken into account by using the real discount rate in the equations for financial depth (measured by M2/GDP) and the growth of base money in the equations for price stability (measured by the annual CPI). The time span of data for the regressions, shown in Table 10, is typically 1990-94 for CEE (except the Former Yugoslav Republics) and Mongolia and 1991-94 for other countries.

Three equations are estimated for each dependent variable. In the first equation, we include all the instruments; in the second equation, we include only those instruments that are statistically significant. And in the third equation we substitute the composite MOMPI index for individual instrument dummy variables. In each equation, we specify a lagged independent variable, a policy variable, and two conditioning variables--one representing a time trend and one representing price liberalization. The lagged variable accounts for the influence of omitted variables which have a continuing, or persistent, effect over the period covered. The time trend variable is added to account for time variant factors. The price liberalization variable is defined as the change in the index of domestic price liberalization_-one of the three components of the liberalization index developed in de Melo et al. 1996. Where indicated, we used the fixed effects estimation method to allow for country-specific effects on the dependent variable.

Table 11 presents the equations for financial depth, which use the fixed effects method. Persistence explains about a third of financial depth, much of the remainder appears to be explained by the policy stance variable and a negative time trend. The relationship between financial depth and the MOMPI index is positive, but not statistically significant; however, there is a significant positive association between financial depth and the market orientation of two specific instruments--the elimination of credit ceilings (CC) and development of the market for government paper (TCB). As indicated in Tables 4b and 4c, many countries imposed credit controls at the time of stabilization, since other regulatory systems were weak or ineffective. However, successful stabilizers removed credit controls rather quickly, providing a strong signal that economic conditions had returned to normal. This signal

coincided with, and may have contributed to, an increase in demand for broad money. A significant and positive link between financial depth and TCB could be viewed as the normal and expected outcome, since development of this market is facilitated by normalization of economic conditions.

Table 12 presents the equations for inflation. Here, the lagged variable explains closer to half current inflation, with much of the remainder explained by money growth, a smaller negative time trend than in the previous equations, and price liberalization. The relationship between base money growth and inflation confirms that policy stance operates in the expected way to attain price stability during the transition process and countries that were able to restrict base money growth were able to control inflation. This, of course, does not mean that there were not other factors influencing inflation. As shown by Citrin et al. 1995, for example, increases in energy prices and other shocks affected inflation in the short term. And the PLIB variable here indicates that, given the large money overhang and negative real interest rates in many transition economies, the elimination of price controls led to higher price levels and the erosion of real money balances.

Turning to the use of market-oriented instruments, the elimination of directed credit and the introduction of a market-oriented refinancing window are both negatively and significantly associated with inflation. Most other instruments are negatively related to inflation but are not significant. However, equation 3 shows that the inclusion of the overall MOMPI index results in a fall in the significance of the price liberalization variable. The significant, negative association between the MOMPI index and inflation suggests that--even if the association is explained largely by the fact that countries with lower inflation found it easier to introduce market-oriented instruments--on the whole the introduction of market-oriented instruments did not aggravate the problem of inflation control.

F. Conclusions

In this paper we looked at monetary policy in 26 transition economies in CEE and FSU between 1989-1994. We provided a schema for classifying the use of six important monetary policy instruments, both direct and indirect, and suggested criteria for defining market-oriented use of these instruments. We then made an assessment of the extent of market-oriented instrument use during the period under review and around stabilization. The impact of instrument use on inflation and

financial depth, which declined dramatically during the early years of transition, is also explored.

Our conclusions indicate several clear patterns. First, by end-1994, slightly less than half the countries were relying primarily on market-oriented forms of monetary instruments, and slightly more than half had moderate or low reliance on such instruments. As might be expected, countries that quickly formulated a monetary policy response following the break from socialist central planning were more likely to switch to market-oriented instruments. Second, CEE countries moved more rapidly than FSU countries toward these forms, even when we control for stage of stabilization. Third, the use of credit ceilings was seen to be helpful in the year of stabilization, especially in CEE countries. And the elimination of credit controls was associated with effective stabilization.

Our findings support the view that policy stance, as measured by base money growth and the real discount rate, was effective in helping to reverse undesirable inflation and disintermediation trends. But the relationship between effectiveness and market orientation of monetary policy instruments is less clear. Financial depth is associated with the elimination of credit ceilings and the development of markets for government paper, and inflation is associated with the elimination of directed credit and the establishment of a market-oriented refinancing window. The overall index of the market orientation of monetary policy instruments (MOMPI) is negatively related to inflation, but the direction of causality is unclear.

On balance, the relatively weak link between market orientation of instruments and indicators of effectiveness suggests that inflation control and financial depth are more directly related to policy stance, which is in turn related to broader structural reforms. As concluded by de Melo et. al 1996 and Fischer, Sahay and Vegh (1996), monetary stability goes hand in hand with adjustment in the real sectors. Subsidies and central bank support of public enterprises to help maintain employment and output are ultimately financed by money creation, reducing the options for monetary policy regardless of the market-orientation of the monetary system.

Table 1:
Pre-Transition Financial Ratios as Percent of GDP[a)]

Countries	Year	Currency	DD	TSD	FXD	Total M2
Central and Eastern Europe						
Albania[c)]	1990	9	n.a.	n.a.	0	31
Bulgaria[c)]	1989	14	37	52	4	107
Croatia[e)]	1991	3	7	5	8	23
Czech Republic[c), d)]	1989	9	30	29	0	68
Hungary[c)]	1989	10	9	19	1	38
FYR Macedonia[e)]	1991	4	11	3	6	24
Poland[c)]	1989	4	4	4	11	22
Romania	1989	8	17	23	1	51
Slovak Republic[c), d)]	1989	9	30	29	0	68
Slovenia[e)]	1991	2	5	6	8	21
Group Average:		**7**	**15**	**18**	**4**	**42**
Former Soviet Union and Mongolia:						
Armenia	1991	n.a.	18	56	0	74
Azerbaijan	1991	37	19	23	n.a.	79
Belarus[b)]	1991	5	28	17	0	50
Estonia[c)]	1991	11	25	18	24	66
Georgia	1991	n.a.	n.a.	n.a.	n.a.	n.a.
Kazakstan	1991	13	n.a.	n.a.	n.a.	71
Kyrgyz Republic	1991	13	15	15	n.a	43
Latvia	1991	10	n.a.	n.a.	7	40
Lithuania[c)]	1991	14	24	6	2	47
Moldova[e)]	1991	6	n.a.	n.a.	n.a.	70
Russia	1991	9	n.a.	n.a.	8	61
Tajikistan[e)]	1991	16	n.a.	n.a.	n.a.	n.a.
Turkmenistan	1991	21	40	3	n.a.	64
Ukraine	1991	9	37	21	0	67
Uzbekistan	1991	22	21	21	n.a.	64
Mongolia	1989	5	25	14	1	46
Group Average:		**14**	**25**	**20**	**5**	**60**

Sources: for the FSU - IMF Economic Reviews and REDs; for CEE - Central Bank bulletins and IFS

Notes:

a) Monetary stocks are averages of end-year stocks from the specified year and the previous year, except as noted.

b) FXD include an amount frozen at VEB in Moscow.

c) Quarterly averages of monetary stocks, except for FXD of Czech and Slovak Republics.

d) Data for the federation

e) Monetary stocks are end-current year; to account for that, they are deflated by CPI (eop) and GDP is deflated by CPI (pa).

Table 2:
Monetary Policy Framework

Countries	Adoption of Stabilization Program	Principal Nominal Anchor in Stabilization Program	Newly Introduced Currency
Group 1: Fast Response[a)]			
Albania	III/92	Money	No
Bulgaria	I/91	Money	No
Croatia	IV/93	First money, later exchange rate	Yes, II/94
Czech Republic	I/91	Exchange Rate	No
Hungary	I/90	Money	No
Poland	I/90	Exchange Rate	No
Slovenia	I/92	Money	Yes, I/92
Slovak Republic	I/91	Exchange Rate	Yes, I/93
Estonia	II/92	Exchange Rate (currency board)	Yes, II/92
Latvia	II/92	First money, later exchange rate	Yes, III/93
Lithuania	II/92	First money, later exchange rate (currency board)	Yes, II/93
Kyrgyz Republic	II/93	Money	Yes, II/93
Moldova	III/93	Money	Yes, III/93
Group 2: Slower Response			
FYR Macedonia	I/94	Money	Yes, II/94
Romania	IV/93	Money	No
Armenia	IV/94	Money	Yes, IV/93
Azerbaijan	I/95	Money	Yes, III/93
Belarus	IV/94	Money	Yes, IV/94
Georgia	III/94	Money	Yes, III/95
Kazakstan	I/94	Money	Yes, IV/93
Russia	II/95	Money	Yes, III/93
Tajikistan	I/95	Money	Yes, II/95
Turkmenistan	No targets as of IV/95	n/a	Yes, IV/93
Ukraine	IV/94	Money	Yes, IV/92
Uzbekistan	IV/94	Money	Yes, II/94
Mongolia	II/93	Money	No

Source: Column 1: Fisher, Sahay and Vegh ('95); except Mongolia.
Columns 2 and 3: IMF and World Bank reports

a) Countries adopting a stabilization program within the first two years of transition (see Table 1 for base year).

Table 3:
Main Instruments of Monetary Policy in CEE/FSU[a/]

INSTRUMENTS	Use of Instruments during Transition[b/]		
	Late Socialism	Transitional	Market-oriented
A. DIRECT INSTRUMENTS			
1. **Directed credits**	enterprises	banks	credit auction
2. **Credit ceilings**		Bank-by-bank ceilings, tradable ceilings	ceiling on CB net domestic assets, or none
3. **Interest rate controls on commercial bank deposit/lending rates**	fixed administered rates	max. and min. rates or margin fixed	none
B. INDIRECT INSTRUMENTS			
4. **Reserve requirements**	none	high and/or changing levels	low and stable
5. **Refinance windows**	preferential rates/access	refinance at single rate	credit auction
and			
Rediscount/Lombard facilities		introduction	fully developed
6. **Gov't and CB bills and bonds**	introduced sometimes w/statutory liquidity ratios	secondary market trade introduced	open-market type operation or fully developed secondary market trade

CB = central bank

a. See Alexander, Balino, and Enoch (1995) for a further description of monetary policy instruments.

b. The form of instrument use is not necessarily exclusive. Country sheets reflect the dominant use of each instrument.

Table 4a:
Market Orientation (1) of Monetary Instrument Use in Transition Economies

	Direct Instruments[a]															Indirect Instruments[b]														
	Directed Credit					Credit Ceilings					Interest Rate Controls					Reserve Requirements					Refinancing/Credit Auction					T-bills/CB bills[c]				
Countries	**90**	**91**	**92**	**93**	**94**	**90**	**91**	**92**	**93**	**94**	**90**	**91**	**92**	**93**	**94**	**90**	**91**	**92**	**93**	**94**	**90**	**91**	**92**	**93**	**94**	**90**	**91**	**92**	**93**	**94**
Albania	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	1	0	0	0	0	0
Bulgaria	0	1	1	1	1	1	0	0	0	1	0	1	1	1	1	0	1	1	1	1	0	1	1	1	1	0	0	0	1	1
Croatia[d]	0	0	0	1	1	0	1	1	1	1	0	1	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1
Czech Republic[d]	0	1	1	1	1	1	0	1	1	1	0	0	1	1	1	0	0	1	1	1	0	1	1	1	1	0	0	1	1	1
Hungary	1	1	1	1	1	0	0	1	1	1	0	0	1	1	1	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1
Macedonia, FYR[d]	0	0	0	0	1	0	1	1	1	0	0	0	1	1	1	0	0	0	1	1	1	1	0	0	1	0	0	0	0	0
Poland	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	1	1	1	1	1	0	0	1	1	1
Romania	0	0	0	1	1	1	0	1	1	1	0	1	1	1	1	0	0	1	1	1	0	0	1	1	1	0	0	0	0	0
Slovak Republic[d]	0	1	1	1	1	1	0	1	0	1	0	0	1	1	1	0	0	1	1	1	0	1	1	1	1	0	0	1	1	1
Slovenia[d]	0	1	1	1	1	0	1	1	1	1	0	1	1	1	1	0	0	0	0	0	1	1	1	1	1	0	0	1	1	1
Armenia	-	0	0	0	0	-	1	1	1	1	-	0	0	0	0	-	0	0	0	0	-	0	0	0	1	-	0	0	0	0
Azerbaijan	-	0	0	0	1	-	1	1	1	1	-	0	0	0	0	-	0	0	0	1	-	0	0	0	0	-	0	0	0	0
Belarus	-	0	0	0	0	-	1	1	1	1	-	0	0	0	0	-	1	0	0	0	-	0	0	1	1	-	0	0	0	0
Estonia	-	1	1	1	1	-	1	1	1	1	-	1	1	1	1	-	1	1	1	1	-	0	0	1	1	-	0	0	1	1
Georgia	-	0	0	0	1	-	1	0	1	1	-	0	0	0	1	-	1	0	0	0	-	0	0	1	0	-	0	0	0	0
Kazakstan	-	0	0	0	0	-	1	1	1	1	-	0	1	1	1	-	0	0	0	0	-	0	1	1	1	-	0	0	0	0
Kyrgyz Republic	-	0	0	0	1	-	1	1	1	0	-	0	0	0	0	-	0	0	0	0	-	0	0	1	1	-	0	0	0	0
Latvia	-	0	1	1	1	-	1	1	1	1	-	1	1	1	1	-	0	0	0	1	-	1	1	1	0	-	0	0	0	1
Lithuania	-	0	1	1	1	-	1	0	1	1	-	0	0	1	1	-	1	1	1	1	-	0	0	1	0	-	0	0	0	0
Moldova	-	0	0	0	0	-	1	1	1	1	-	0	0	0	0	-	0	0	0	0	-	0	1	1	1	-	0	0	0	0
Russia	-	0	0	0	0	-	1	1	1	1	-	0	0	0	0	-	1	0	0	0	-	0	1	1	1	-	0	0	0	1
Tajikistan	-	0	0	0	0	-	1	1	1	1	-	0	0	0	0	-	0	0	0	0	-	0	1	1	1	-	0	0	0	0
Turkmenistan	-	0	0	0	0	-	1	1	1	1	-	0	0	0	0	-	0	0	0	0	-	0	0	1	1	-	0	0	0	0
Ukraine	-	0	0	0	0	-	1	1	1	0	-	0	0	0	0	-	1	0	0	0	-	0	1	1	1	-	0	0	0	0
Uzbekistan	-	0	0	0	0	-	1	1	1	1	-	0	0	0	0	-	0	0	0	0	-	0	0	1	1	-	0	0	0	0
Mongolia	0	0	0	0	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0

Notes:

a) Use of direct instruments as of year-end; 0 denotes 'in use', 1 - not used, and thus market oriented; see text for criteria

b) Use of indirect instruments as of year-end; 1 denotes 'in use', and thus market oriented; 0 - not used; see text for criteria

c) T-bills - issued by the Ministry of Finance; CB bills - issued by the Central Bank

d) Instrument use shown for Czechoslovakia and Yugoslavia, as appropriate, prior to breakup

Table 4b:
Market Orientation of Monetary Instrument Use in CEE at the Time of Stabilization[a)]

Countries	Year T-1								Grand Total	Year T[b)]								Grand Total	Year T+1[b)]								Grand Total
	DC	CC	IRC	Total	RR	RCA	TCB	Total		DC	CC	IRC	Total	RR	RCA	TCB	Total		DC	CC	IRC	Total	RR	RCA	TCB	Total	
Albania (92)	0	1	0	1	0	0	0	0	1	1	0	0	1	1	0	0	1	2	1	0	0	1	1	1	0	2	3
Bulgaria (91)	0	1	0	1	0	0	0	0	1	1	0	1	2	1	1	0	2	4	1	0	1	2	1	1	0	2	4
Croatia (93)	0	1	1	2	0	1	0	1	3	1	1	1	3	0	0	1	1	4	1	1	1	3	0	0	1	1	4
Czech Republic (91)	0	1	0	1	0	0	0	0	1	1	0	0	1	0	1	0	1	2	1	1	1	3	1	1	1	3	6
Hungary (90)	0	0	0	0	0	1	0	1	1	1	0	0	1	0	1	1	2	3	1	0	0	1	0	1	1	2	3
Macedonia, FYR (94)	0	1	1	2	1	0	0	1	3	1	0	1	2	1	1	0	2	4	1	0	1	2	1	1	0	2	4
Poland (90)	1	0	0	1	0	0	0	0	1	1	0	1	2	0	1	0	1	3	1	0	1	2	0	1	0	1	3
Romania (93)	0	1	1	2	1	1	0	2	4	1	1	1	3	1	1	0	2	5	1	1	1	3	1	1	0	2	5
Slovak Republic (91)	0	1	0	1	0	0	0	0	1	1	0	1	2	0	1	0	1	3	1	1	1	3	1	1	1	3	6
Slovenia (92)	1	1	1	3	0	1	0	1	4	1	1	1	3	0	1	1	2	5	1	1	1	3	0	1	1	2	5
Total	2	8	4	14	2	4	0	6	20	10	3	7	20	4	8	3	15	35	10	5	8	23	6	9	5	20	43
Average	0.2	0.8	0.4	1.4	0.2	0.4	0.0	0.6	2.0	1.0	0.3	0.7	2.0	0.4	0.8	0.3	1.5	3.5	1.0	0.5	0.8	2.3	0.6	0.9	0.5	2.0	4.3

Notes:

a) This table is derived from Table 4a. A "1" indicates market-oriented use. Year T refers to the year of the last stabilization attempt, shown in parentheses in the first column (see also Table 2).

b) If Year T or T+1 is 1995, the latest available information is used .

Table 4c:
Market Orientation of Monetary Instrument Use in FSU and Mongolia at the Time of Stabilization[a)]

Countries	Year T-1								Grand Total	Year T[b)]								Grand Total	Year T+1[b)]								Grand Total
	DC	CC	IRC	Total	RR	RCA	TCB	Total		DC	CC	IRC	Total	RR	RCA	TCB	Total		DC	CC	IRC	Total	RR	RCA	TCB	Total	
Armenia (94)	0	1	0	1	0	0	0	0	1	0	1	0	1	0	1	0	1	2	1	1	1	3	0	1	0	1	4
Azerbaijan (95)	1	1	0	2	1	0	0	1	3	1	1	0	2	0	1	0	1	3									
Belarus (94)	0	1	0	1	0	1	0	1	2	0	1	0	1	0	1	0	1	2	1	1	0	2	1	1	0	2	4
Estonia (92)	1	1	1	3	1	0	0	1	4	1	1	1	3	1	0	0	1	4	1	1	1	3	1	1	1	3	6
Georgia (94)	0	1	0	1	0	1	0	1	2	1	1	1	3	0	0	0	0	3	1	1	1	3	0	0	0	0	3
Kazakstan (94)	0	1	1	2	0	1	0	1	3	0	1	1	2	0	1	0	1	3	1	0	1	2	0	1	1	2	4
Kyrgyz Republic (93)	0	1	0	1	0	0	0	0	1	0	0	0	0	0	1	0	1	1	1	1	0	2	0	1	0	1	3
Latvia (92)	0	1	1	2	0	1	0	1	3	1	1	1	3	0	1	0	1	4	1	1	1	3	0	1	0	1	4
Lithuania (92)	0	1	0	1	0	0	0	0	1	1	0	0	1	1	0	0	1	2	1	1	1	3	1	1	0	2	5
Moldova (93)	0	1	0	1	0	1	0	1	2	0	1	0	1	0	1	0	1	2	0	1	0	1	0	1	0	1	2
Russia (95)	0	1	0	1	0	1	1	2	3	1	1	1	3	0	1	1	2	5									
Tajikistan (95)	0	1	0	1	0	1	0	1	2	0	0	1	1	0	1	0	1	2									
Turkmenistan																											
Ukraine (94)	0	1	0	1	0	1	0	1	2	0	0	0	0	0	1	0	1	1	1	0	0	1	0	1	0	1	2
Uzbekistan (94)	0	1	0	1	0	1	0	1	2	0	1	0	1	0	1	0	1	2	0	1	0	1	0	1	0	1	2
Mongolia (93)	0	0	0	0	0	1	0	1	1	0	0	0	0	0	1	0	1	1	1	0	0	1	0	1	0	1	2
Total	2	14	3	19	2	10	1	13	32	6	10	6	22	2	12	1	15	37	10	9	6	25	3	11	2	16	41
Average	0.1	0.9	0.2	1.3	0.1	0.7	0.1	0.9	2.1	0.4	0.7	0.4	1.5	0.1	0.8	0.1	1.0	2.5	0.8	0.8	0.5	2.1	0.3	0.9	0.2	1.3	3.4

Notes:

a) This table is derived from Table 4a. A "1" indicates market-oriented use. Year T refers to the year of the last stabilization attempt, shown in parentheses in the first column (see also Table 2).

b) If Year T or T+1 is 1995, the latest available information is used .

Table 4d:
Market Orientation
of Monetary Policy Instruments Around Stabilization in Year T
(average indices)

Instruments	All Countries		
	Year T-1	Year T	Year T+1
Direct			
Directed Credit	16	64	91
Credit Ceilings	88	52	64
Interest Rate Controls	28	52	64
Indirect			
Reserve Requirements	16	24	38
Refinancing/Credit Auction	56	80	91
Government paper	4	16	32
Overall Index	35	48	63

Instruments	CEE Countries			FSU Countries and Mongolia		
	Year T-1	Year T	Year T+1	Year T-1	Year T	Year T+1
Direct						
Directed Credit	20	100	100	13	40	83
Credit Ceilings	80	30	50	93	67	75
Interest Rate Controls	40	70	80	20	40	50
Indirect						
Reserve Requirements	20	40	60	13	13	25
Refinancing	40	80	90	67	80	92
Government paper	0	30	50	7	7	17
Overall Index	33	58	72	36	42	57

Source: Authors' calculations; see text for definition

Instruments	"Fast Response" Countries			"Slow Response" Countries		
	Year T-1	Year T	Year T+1	Year T-1	Year T	Year T+1
Direct						
Directed Credit	23	85	92	8	42	89
Credit Ceilings	85	38	69	92	67	56
Interest Rate Controls	31	54	69	25	50	56
Indirect						
Reserve Requirements	8	31	46	25	17	25
Refinancing	38	69	92	75	92	89
Government paper	0	23	46	8	8	11
Overall Index	31	50	69	39	46	54

Source: Authors' calculations; see text for definition

Table 4e:
Market Orientation of Monetary Instrument Use in CEE at the Time of Stablization[a/]

Countries	Year T-1								Grand	Year T[b/]								Gran	Year T+1[b/]								Grand
	DC	CC	IRC	Total	RR	RCA	TCB	Total	Total	DC	CC	IRC	Total	RR	RCA	TCB	Total	Total	DC	CC	IRC	Total	RR	RCA	TCB	Total	Total
Exchange Rate Anchor:																											
Czech Republic (91)	0	1	0	1	0	0	0	0	1	1	0	0	1	0	1	0	1	2	1	1	1	3	1	1	1	3	6
Poland (90)	1	0	0	1	0	0	0	0	1	1	0	1	2	0	1	0	1	3	1	0	1	2	0	1	0	1	3
Slovak Republic (91)	0	1	0	1	0	0	0	0	1	1	0	1	2	0	1	0	1	3	1	1	1	3	1	1	1	3	6
Estonia (92)	1	1	1	3	1	0	0	1	4	1	1	1	3	1	0	0	1	4	1	1	1	3	1	1	1	3	6
Total	2	3	1	6	1	0	0	1	7	4	1	3	8	1	3	0	4	12	4	3	4	11	3	4	3	10	21
Average	0.5	0.8	0.3	1.5	0.3	0.0	0.0	0.3	1.8	1.0	0.3	0.8	2.0	0.3	0.8	0.0	1.0	3.0	0.8	0.8	1.0	2.8	0.8	1.0	0.8	2.5	5.3
Money Followed by ER Anchor:																											
Croatia (93)	0	1	1	2	0	1	0	1	3	1	1	1	3	0	0	1	1	4	1	1	1	3	0	0	1	1	4
Latvia (92)	0	1	1	2	0	1	0	1	3	1	1	1	3	0	1	0	1	4	1	1	1	3	0	1	0	1	4
Lithuania (92)	0	1	0	1	0	0	0	0	1	1	0	0	1	1	0	0	1	2	1	1	1	3	1	1	0	2	5
Total	0	3	2	5	0	2	0	2	7	3	2	2	7	1	1	1	3	10	3	3	3	9	1	2	1	4	13
Average	0.0	1.0	0.7	1.7	0.0	0.7	0.0	0.7	2.3	1.0	0.7	0.7	2.3	0.3	0.3	0.3	1.0	3.3	1.0	1.0	1.0	3.0	0.3	0.7	0.3	1.3	4.3
Money Anchor:																											
Albania (92)	0	1	0	1	0	0	0	0	1	1	0	0	1	1	0	0	1	2	1	0	0	1	1	1	0	2	3
Armenia (94)	0	1	0	1	0	0	0	0	1	0	1	0	1	0	1	0	1	2	1	1	1	3	0	1	0	1	4
Azerbaijan (95)	1	1	0	2	1	0	0	1	3	1	1	0	2	0	1	0	1	3									
Belarus (94)	0	1	0	1	0	1	0	1	2	0	1	0	1	0	1	0	1	2	1	1	0	2	1	1	0	2	4
Bulgaria (91)	0	1	0	1	0	0	0	0	1	1	0	1	2	1	1	0	2	4	1	0	1	2	1	1	0	2	4
Georgia (94)	0	1	0	1	0	1	0	1	2	1	1	1	3	0	0	0	0	3	1	1	1	3	0	0	0	0	3
Hungary (90)	0	0	0	0	0	1	0	1	1	1	0	0	1	0	1	1	2	3	1	0	0	1	0	1	1	2	3
Kazakstan (94)	0	1	1	2	0	1	0	1	3	0	1	1	2	0	1	0	1	3	1	0	1	2	0	1	1	2	4
Kyrgyz Republic (93)	0	1	0	1	0	0	0	0	1	0	0	0	0	0	1	0	1	1	1	1	0	2	0	1	0	1	3
Macedonia, FYR (94)	0	1	1	2	1	0	0	1	3	1	0	1	2	1	1	0	2	4	1	0	1	2	1	1	0	2	4
Moldova (93)	0	1	0	1	0	1	0	1	2	0	1	0	1	0	1	0	1	2	0	1	0	1	0	1	0	1	2
Mongolia (93)	0	0	0	0	0	1	0	1	1	0	0	0	0	0	1	0	1	1	1	0	0	1	0	1	0	1	2
Romania (93)	0	1	1	2	1	1	0	2	4	1	1	1	3	1	1	0	2	5	1	1	1	3	1	1	0	2	5
Russia (95)	0	1	0	1	0	1	1	2	3	1	1	1	3	0	1	1	2	5									
Slovenia (92)	1	1	1	3	0	1	0	1	4	1	1	1	3	0	1	1	2	5	1	1	1	3	0	1	1	2	5
Tajikistan (95)	0	1	0	1	0	1	0	1	2	0	0	1	1	0	1	0	1	2									
Ukraine (94)	0	1	0	1	0	1	0	1	2	0	0	0	0	0	1	0	1	1	1	0	0	1	0	1	0	1	2
Uzbekistan (94)	0	1	0	1	0	1	0	1	2	0	1	0	1	0	1	0	1	2	0	1	0	1	0	1	0	1	2
Total	2	16	4	22	3	12	1	16	38	9	10	8	27	4	16	3	23	50	13	8	7	28	5	14	3	22	50
Average	0.1	0.9	0.2	1.2	0.2	0.7	0.1	0.9	2.1	0.5	0.6	0.4	1.5	0.2	0.9	0.2	1.3	2.8	0.7	0.4	0.4	1.6	0.3	0.8	0.2	1.2	2.8

Notes:

a. This table is derived from Table 4a. A "1" indicates market-oriented use. Year T refers to the year of the last stabilization attempt, shown in parentheses in the first column (see also Table 2).

b. If Year T or T+1 is 1995, the latest available information is used.

Table 5:
Indicators of Monetary Policy Stance, 1990-94 (CEE and Mongolia) and 1992-94 (FSU and FYRs)
(percent)

	Average Growth Rate of Base Money[a)]	Average Growth Rate of Broad Money[a)]	Effectiveness of Credit Ceilings[c)]	Average Real Discount Rate, 1992-94[d)]
Group 1 - moderate				
Albania	66	79	E	-11
Bulgaria	31	60	E*	-11
Czech Republic[b)]	29	18	E*	-4
Hungary	28	23	E*	2
Poland	51	66	E*	3
Romania	78	98	NE	-23
Slovak Republic[b)]	24	13	E*	-5
Slovenia	76	77	NU	-12
Estonia	91	52	NU	n.a.
Latvia	64	95	E*	-21
Group - Average	**54**	**58**		**-9**
Group 2 - loose				
FYR Macedonia	248	970	E	20
Kyrgyz Republic	284	242	E*	-41
Lithuania	127	175	E*	n.a.
Moldova	352	265	NU	-43
Mongolia	144	84	E	-53
Group Average	**231**	**347**		**-29**
Group 3 - very loose				
Croatia	534	587	NU	-28
Armenia	1711	970	NU	-82
Azerbaijan	652	733	NU	-88
Belarus	993	1115	NU	-80
Georgia	1978	2447	NE	-94 [e)]
Kazakstan	843	600	NE	-72
Russia	650	437	NE	-41
Tajikistan	1113	722	NE	-56
Turkmenistan	742	875	NU	-91
Ukraine	2009	1070	E	-59
Uzbekistan	552	644	NU	-85
Group Average	**1071**	**927**		**-70**

Source: IMF and IBRD reports, country Central Bank bulletins, Banerjee et al. (1995), Citrin & Lahiri (1995), Ebril et al. (1994)

a) Average of December/December growth rates; Broad Money includes foreign exchange deposits
b) 1990-92: data on the former federation; 1992 - base money estimated from the CB balance sheet
c) E =Effectively used; still used as of end-1994
E*=Effectively used; terminated
NE=Not always enforced
NU= Not used, or used only for a short period of time
d) The real discount rate is calculated as $[(1 + i)/(1 + \pi] - 1$, where i refers to the quoted central bank discount/refinancing rate and π refers to the quarterly eop CPI-based inflation. The period rate is based on quarterly average rates.
e) Average for 1992-93.
NB The group classification is based on average annual base money growth:
- Group 1: < 100%
- Group 2: > 100% and <400%
- Group 3: > 400%

Table 6:
Indicators of Effectiveness of Monetary Policy
(percent)

	Average CPI/RPI Inflation					Domestic M2/GDP					Real GDP Growth				
	1990	**1991**	**1992**	**1993**	**1994**	**1990**	**1991**	**1992**	**1993**	**1994**	**1990**	**1991**	**1992**	**1993**	**1994**
Group 1															
Albania	2	36	226	85	23	31	45	31	26	27	-10	-28	-10	11	7
Bulgaria	26	334	82	73	96	89	37	44	49	41	-9	-12	-7	-2	1
Czech Republic[b)]	10	57	11	21	10	64	57	62	63	69	0	-14	-6	-1	3
Hungary	29	35	23	22	19	35	33	36	37	33	-4	-12	-3	-1	3
Poland	586	70	43	35	33	14	22	21	22	22	-12	-7	3	4	6
Romania	5	175	211	256	131	53	26	19	11	10	-6	-13	-9	1	4
Slovak Republic[b)]	11	61	10	23	14	64	57	63	57	55	0	-15	-6	-4	5
Slovenia	550	118	201	32	20	15	12	10	13	16	-5	-8	-5	1	6
Estonia	23	211	1076	90	48	67	49	14	19	18	-8	-11	-14	-7	-3
Latvia	4	124	951	109	36	67	42	12	16	21	3	-8	-35	-15	2
Group Average	**125**	**122**	**283**	**75**	**43**	**50**	**38**	**31**	**31**	**31**	**-5**	**-13**	**-9**	**-1**	**3**
Group 2															
FYR Macedonia	608	115	1691	350	122	15	18	8	8	12	-10	-12	-21	-8	-4
Kyrgyz Republic	3	85	855	1209	280	67	43	13	8	9	3	-5	-25	-16	-27
Lithuania	8	225	1021	409	72	67	44	11	9	12	-5	-13	-38	-24	2
Moldova	4	98	1208	1283	587	67	n.a.	21	8	6	-2	-18	-29	-1	-31
Mongolia	2	33	203	269	87	54	41	26	11	15	-2	-9	-10	-3	2
Group Average	**125**	**111**	**995**	**704**	**230**	**54**	**37**	**16**	**9**	**11**	**-3**	**-11**	**-25**	**-10**	**-12**
Group 3															
Croatia	610	123	666	1518	98	15	15	9	6	10	-9	-14	-9	-3	1
Armenia	10	100	825	3732	5273	67	74	30	11	4	-7	-11	-52	-15	5
Azerbaijan	8	106	616	1130	1664	67	79	19	21	12	-12	-1	-23	-23	-21
Belarus	5	84	969	1188	2220	67	50	14	8	5	-3	-1	-10	-12	-20
Georgia	3	79	887	3125	18922	67	n.a.	22	3	1	-12	-14	-40	-39	-35
Kazakstan	4	91	1381	1662	1880	67	70	15	11	4	0	-13	-13	-12	-25
Russia	6	93	1353	896	302	67	58	14	10	10	-4	-13	-15	-9	-13
Tajikistan	4	112	1157	2195	341	67	n.a.	27	32	n.a.	-2	-7	-29	-11	-21
Turkmenistan	5	103	493	3102	2400	67	64	12	13	6	2	-5	-5	-10	-20
Ukraine	4	91	1210	4735	891	67	67	22	10	10	-3	-12	-17	-17	-23
Uzbekistan	3	82	645	534	1568	67	64	33	20	13	2	-1	-11	-2	-4
Group Average	**60**	**97**	**927**	**2165**	**3233**	**62**	**60**	**20**	**13**	**8**	**-4**	**-8**	**-20**	**-14**	**-16**

Source: EBRD, IFS, IMF reports

TABLE 7:
Comparison of Average Financial Ratios
Across Country Groups

M2/GDP (including FX deposits)[b)]	1989	1991	1993	1994[e)]
High-income	68	79	80	75
Upper-middle income	51	42	47	50
Lower-middle income[c)]	42	39	40	39
Low-income	24	31	29	34
Transition economies:[d)]				
- CEE	55	39	43	42
- FSU and Mongolia	54	62	20	17
- East Asia	42	50	53	54

Source: WDR, 1991, 1993, 1995; IMF

Notes:

a) Income groups as defined in the World Bank World Development Reports

b) M2 calculated as the average of the year-end figures for the specified and the previous year

c) Bolivia excluded in 1991, because it is an extremely high outlier

d) Not included in the previous categories

e) Country breakdown as for 1993, except Portugal is in the high-income group (upper-middle income in 1993)

TABLE 8:
Use of Market-Oriented Instruments, Policy Stance and Effectiveness during and after Stabilization[a/]

Market-Orientation of Instruments	Policy Stance		
	Moderate	**Loose**	**Very Loose**
High (5-6 instruments)	Slovenia	Estonia Latvia (92) *Romania (93) *Russia (95)[b/ c/]	
Substantial (4-4.5 instruments)	Hungary (90) *FYR Macedonia (94)	*Azerbaijan (95)[b/ c/]	*Armenia (94)[c/] *Georgia (94)[c/] *Kazakstan (94)[c/]
Moderate (3-3.5 instruments)		Kyrgyz Republic (93) Lithuania (92) Moldova (93) *Tajikistan (95)[b/ c/] *Uzbekistan (94)[c/]	*Belarus (94)[c/]
Low (2-2.5 instruments)	Albania (92)	*Mongolia *Ukraine (94) [c/]	

*Indicates countries stabilizing relatively slowly.

a/ The use of market-oriented instruments is shown as an average of years T and T+1. Policy stance is also an average for years T and T+1 with categories for base money growth defined as in Table 5. Effectiveness, shown by shading, is defined by inflation in year T+1 less than 100 and less than inflation in year T and a stable or increasing ratio of M2/GDP by year T+1. Turkemenistan is excluded, as it had not adopted a stabilization program by end-1995.

b/ Based on data for year T only.

c/ Base money growth and inflation for 1995 are mid-year estimates annualized.

Table 9:
Simple Correlations Between Base Money Growth, Inflation and the MOMPI[a)] Index

Correlation Coefficients	Year T-1	Year T[b)]	Year T+1[c)]	Average
1. Overall[d)]				
Base Money Growth - Inflation[e), f)]	0.96	0.86	0.79	0.95
Base Money Growth - MOMPI Index[e), f)]	-0.11	-0.14	-0.12	-0.34
Inflation - MOMPI Index	-0.04	-0.15	-0.20	-0.25
2a. CEE Countries				
Base Money Growth - Inflation[e), f)]	0.79	0.96	0.86	0.98
Base Money Growth - MOMPI Index[e), f)]	0.22	0.27	-0.26	0.12
Inflation - MOMPI Index	0.52	0.21	-0.34	0.17
2b. FSU Countries and Mongolia				
Base Money Growth - Inflation[e)]	0.96	0.84	0.71	0.93
Base Money Growth - MOMPI Index[e)]	-0.29	-0.06	0.09	-0.33
Inflation - MOMPI Index	-0.19	0.00	0.03	-0.16
3a"Fast Response" Countries				
Base Money Growth - Inflation[f)]	0.83	0.73	0.83	0.84
Base Money Growth - MOMPI Index[f)]	0.08	0.12	-0.24	-0.15
Inflation - MOMPI Index	0.11	-0.03	-0.34	-0.18
3b. "Slow Response" Countries				
Base Money Growth - Inflation[e)]	0.96	0.86	0.97	0.94
Base Money Growth - MOMPI Index[e)]	-0.51	-0.22	0.05	-0.49
Inflation - MOMPI Index	-0.37	-0.16	0.01	-0.28

Source: Authors' calculations

Notes:

a) Market Orientation of Monetary Policy Instruments; see text for definition
The 1995 data are annualized mid-year numbers

b) The year of the latest stabilization effort as reported in Fisher, Sahay and Vegh (1995)

c) The following countries, in which stabilization started in 1995, are excluded: Azerbaijan, Russia, Tajikistan; Uzbekistan is excluded due to lack of data

d) Turkmenistan is excluded from all calculations since no stabilization has started before 1995;
For the following countries and years, domestic broad money growth is substituted for base money growth:
Estonia, Latvia, Lithuania in year T-1 (1991), Latvia in year T (1992), Uzbekistan in year T (1994)

e) Tajikistan is excluded due to lack of monetary data

f) Slovenia is excluded in year T-1 (1991) due to lack of monetary data

Table 10:
Time Span of Data for the Regressions

	M2/GDP	LNINF[a)]
Albania	1990-94	1990-94
Bulgaria	1990-94	1990-94
Croatia[b)]	1990-94	1990-94
Czech Republic[c)]	1990-94	1990-94
Hungary	1989-94	1989-94
Macedonia, FYR[b)]	1990-94	1990-94
Poland	1989-94	1989-94
Romania	1990-94	1990-94
Slovak Republic[c)]	1990-94	1990-94
Slovenia[b)]	1990-94	1990-94
Armenia	1991-94	1991-94
Azerbaijan	1991-94	1991-94
Belarus	1991-94	1991-94
Estonia[d)]	--	1991-94
Georgia	1991-94	1991-94
Kazakhstan	1991-94	1991-94
Kyrgyz Republic	1991-94	1991-94
Latvia	1991-94	1991-94
Lithuania	1991-94	1991-94
Moldova	1991-94	1991-94
Russia	1991-94	1991-94
Tajikistan	1991-94	1991-94
Turkmenistan	1991-94	1991-94
Ukraine	1991-94	1991-94
Uzbekistan	1991-94	1991-94
Mongolia	1990-94	1990-94

a) Natural logarithm of inflation measured by the CPI

b) Data for former Yugoslavia used in 1989-1990

c) Data for former CSFR used in 1989-1991

d) Estonia is not included as no discount rate is used under the currency board arrangement

Table 11: Effectiveness and Market-oriented Instruments: Financial Depth (Dependent variable: M2GDP)

	Equation 1		Equation 2		Equation 3	
Variable	Coefficient	*t-statistic*	Coefficient	*t-statistics*	Coefficient	*t-statistics*
M2GDPLAG	.31	*2.91*	.294	*2.99*	.37	*3.83*
PLIB	-.11	*-1.35*	-.10	*-1.35*	-.16	*-2.21*
RDR	.13	*3.50*	.12	*3.40*	.12	*3.31*
T	-.58	*-2.88*	-.05	*-3.70*	-.05	*-3.01*
DC	-.002	*-.05*	-	-	-	-
CC	.07	*2.34*	.06	*2.13*	-	-
IRC	-.02	*-.37*	-	-	-	-
RR.	-.03	*-.55*	-	-	-	-
RCA	.04	*1.10*	-	-	-	-
TCB	.09	*1.96*	.06	*1.73*	-	-
MOMPI	-	-	-	-	.09	*1.02*
FE1 (Albania)	.45	*4.07*	.43	*5.03*	.37	*4.24*
FE2 (Bulgaria)	.49	*5.31*	.49	*5.85*	.44	*4.92*
FE3 (Croatia)	.21	*3.15*	.21	*3.44*	.24	*3.66*
FE4 (Czech Republic)	.53	*5.55*	.55	*6.33*	.53	*5.93*
FE5 (Hungary)	.33	*3.73*	.37	*5.45*	.38	*5.17*
FE6 (Macedonia, FYR)	.25	*2.69*	.21	*2.42*	.19	*2.51*
FE7 (Poland)	.29	*4.06*	.31	*4.68*	.29	*4.24*
FE8 (Romania)	.31	*3.68*	.29	*3.69*	.27	*3.09*
FE9 (Slovak Republic)	.51	*5.51*	.53	*6.19*	.50	*5.76*
FE10 (Slovenia)	.16	*1.93*	.20	*3.04*	.23	*3.26*
FE11 (Armenia)	.20	*2.47*	.23	*3.24*	.24	*3.47*
FE12 (Azerbaijan)	.39	*2.66*	.39	*2.87*	.39	*3.04*
FE13 (Belarus)	.26	*2.84*	.27	*3.41*	.27	*3.76*
FE14 (Estonia)	-	-	-	-	-	-
FE15 (Georgia)	.16	*2.05*	.19	*2.76*	.20	*2.98*
FE16 (Kazakhstan)	.19	*2.39*	.21	*2.70*	.20	*2.68*
FE17 (Kyrgyz Republic)	.22	*3.19*	.23	*3.60*	.24	*3.63*
FE18 (Latvia)	.24	*3.32*	.24	*3.79*	.24	*3.49*
FE19 (Lithuania)	.32	*3.03*	.29	*3.27*	.26	*2.62*
FE20 (Moldova)	.15	*1.95*	.18	*2.71*	.20	*3.07*
FE21 (Russia)	.14	*1.55*	.18	*2.50*	.21	*3.18*
FE22 (Tajkistan)	.38	*3.92*	.41	*4.83*	.42	*4.76*
FE23 (Turkmenistan)	.22	*2.11*	.24	*2.39*	.25	*2.48*
FE24 (Ukraine)	.21	*2.55*	.24	*3.44*	.23	*3.36*
FE25 (Uzbekistan)	.31	*3.47*	.33	*4.33*	.33	*4.33*
FE26 (Mongolia)	.37	*5.18*	.39	*5.78*	.37	*5.23*
Adjusted R^2		.82		.83		.81
DW		2.10		2.13		2.09

Table 12:
Effectiveness and Market-oriented Instruments: Inflation
(Dependent Variable: log of inflation (CPI))

	Equation 1		Equation 2		Equation 3	
Variable	Coefficient	*t-statistic*	Coefficient	*t-statistics*	Coefficient	*t-statistics*
LNINFLAG	.47	*7.26*	.43	*7.80*	.48	*7.92*
RESM	.09	*5.67*	.10	*6.95*	.10	*6.03*
PLIB	1.54	*2.65*	1.55	*3.47*	.82	*1.36*
T	-.19	*-1.44*	-.18	*-1.75*	-.31	*-2.38*
DC	-1.04	*-3.02*	-.91	*-3.82*	-	-
CC	-0.22	*-0.81*	-	-	-	-
IRC	.25	*.92*	-	-	-	-
RR	-.12	*-.46*	-	-	-	-
RCA	-.55	*-2.17*	-.49	*-2.19*	-	-
TCB.	-.18	*-.52*	-	-	.-	-
MOMPI	-	-	-	-	-1.60	*-3.07*
Constant	1.43	*3.11*	1.34	*4.04*	1.78	*4.36*
Adjusted R^2	.79		.74		.76	

Figure 1:
Market Orientation of Monetary Policy Instruments, Group Averages, 1990-94

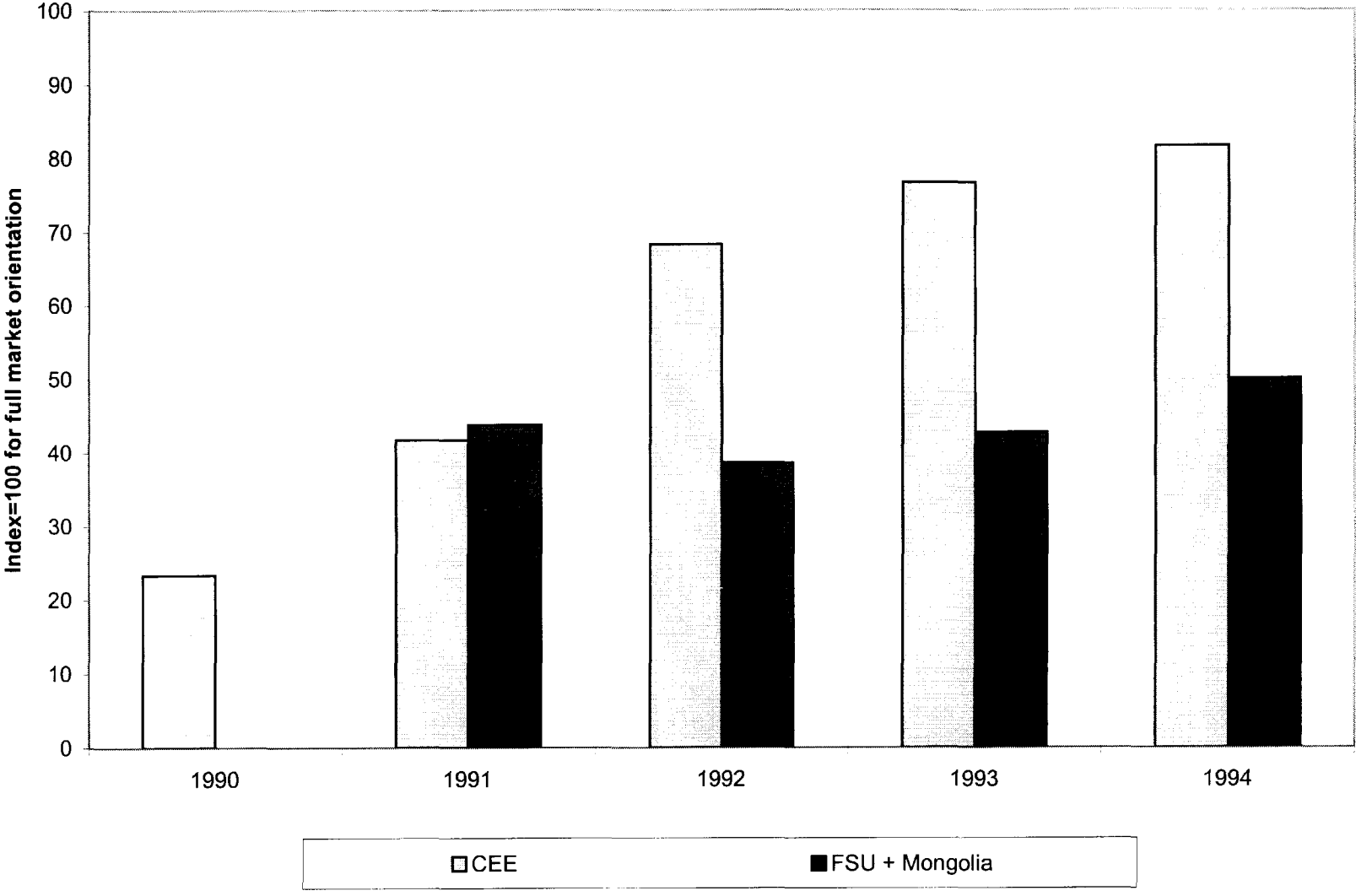


Figure 2:
Sequencing of Market-Oriented Use of Monetary Instruments in Transition Economies during Stabilization

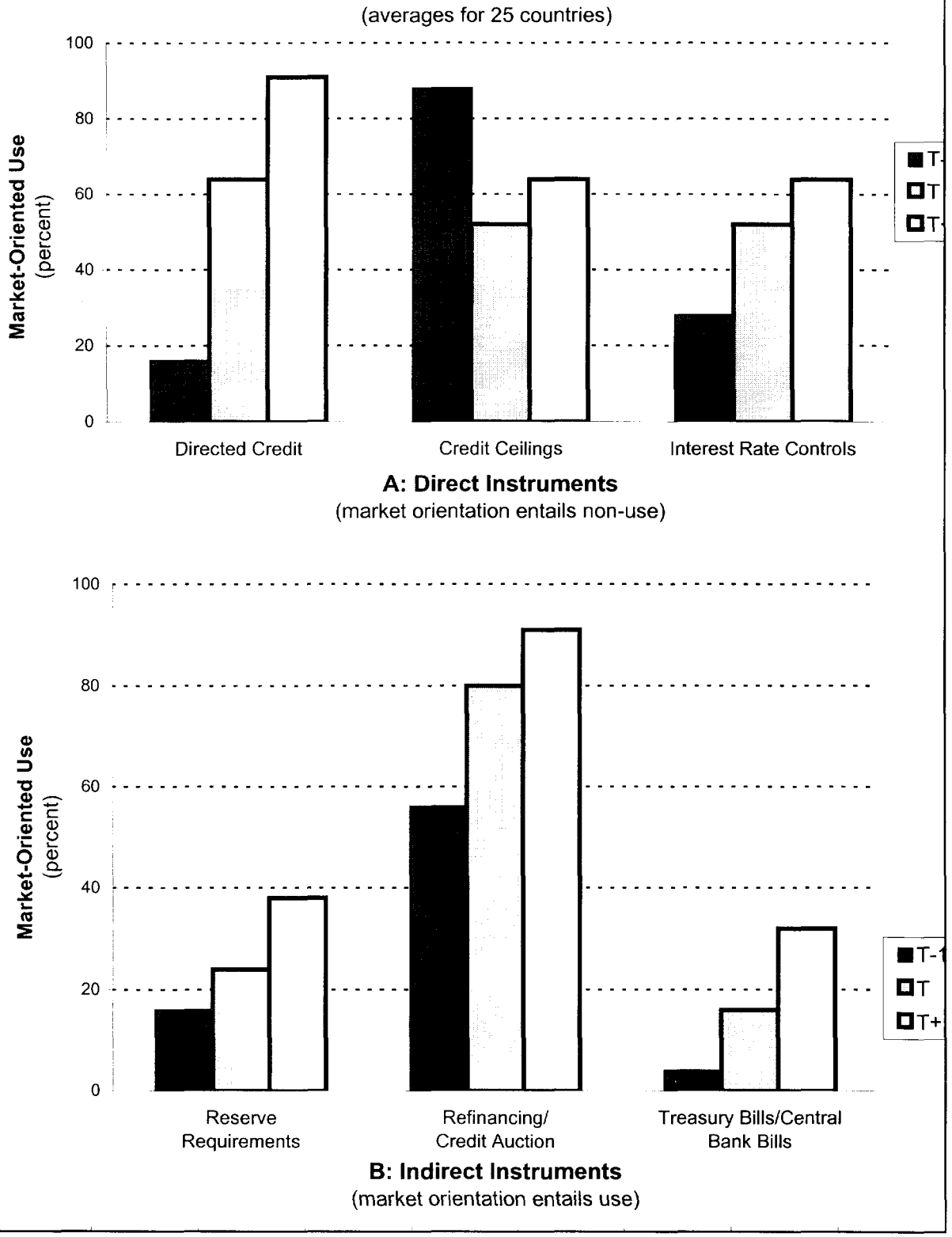
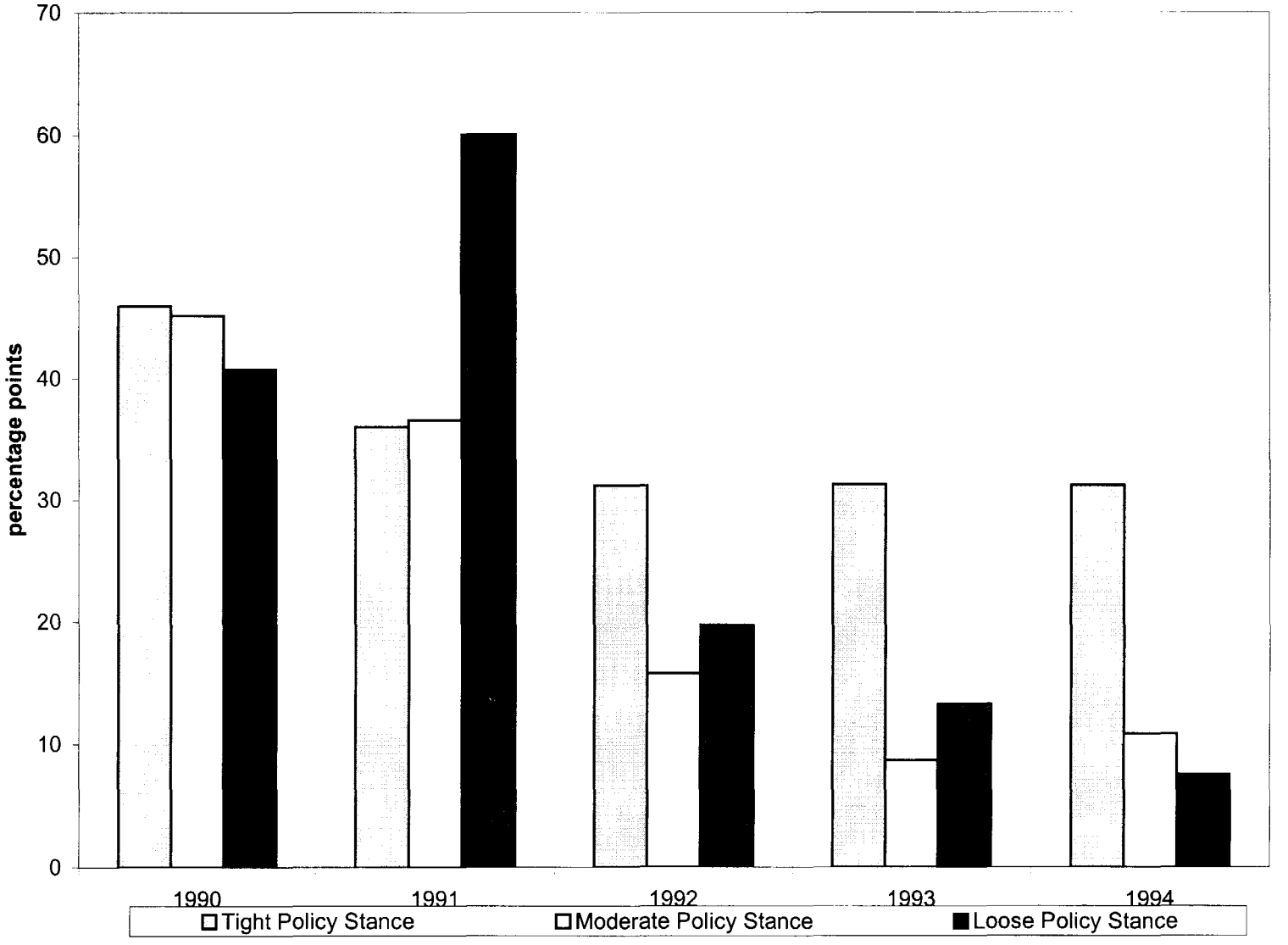


Figure3:
The Evolution of Domestic Broad Money/GDP Ratio, Group Averages, 1990-94



Bibliography

Alexander, William E., and Tomals J. T. Balino and Charles Enoch, 1995. The Adoption of Indirect Instruments of Monetary Policy, IMF Occasional Paper #126, June, International Monetary Fund, Washington, D.C.

Aslund, Anders, 1995. How Russia Became a Market Economy, The Brookings Institution, Washington, D.C.

Balino, Tomas, and Carlo Cottarelli, 1994. Frameworks for Monetary Stability: Policy Issues and Country Experiences, International Monetary Fund, Washington, D.C.

Bennett, Adam, G.G., 1994. "Currency Boards: Issues and Experiences," IMF Paper on Policy Analysis and Assessment 94/18, International Monetary Fund, Washington, D.C.

Bredenkamp, Hugh, 1993. "Conducting Monetary and Credit Policy in Countries of the Former Soviet Union: Some Issues and Options," IMF Working Paper WP/93/23, International Monetary Fund, Washington, D.C.

Bruno, Michael, 1995. "Inflation and Growth in an Integrated Approach," in P. Kenen (ed.) Understanding Interdependence: The Macroeconomics of the Open Economy, Princeton University Press. Princeton.

Bruno, Michael, 1993. Crisis, Stabilization and Economic Reform: Therapy By Consensus, Oxford University Press, Oxford.

Calvo, Guillermo and Fabrizio Coricelli, 1993. "Output Collapse in Eastern Europe: The Role of Credit," in Eastern Europe in Transition: From Recession to Growth?, Mario Blejer (ed.) et al., World Bank Discussion Paper #196, World Bank, Washington, D.C.

Calvo, Guillermo and Carlos Vegh, 1994. "Inflation Stabilization and Nominal Anchors," Contemporary Economic Policy, Vol. XII.

Caprio, Gerard, Jr, 1995. "The Role of Financial Intermediaries in Transitional Economies," Carnegie-Rochester Conference Series on Public Policy, 42, pp. 257-302, North Holland.

Citrin, Daniel, J. Anderson, and J. Zettelmeyer, 1995. "The IMF's Approach to Stabilization in the Baltics, Russia and the Other FSU Countries," Economic Policy in Transition Economies (MOCT), Kluwer Academic Publishers, Vol. 5, No. 2.

Cochrane John, and B. Ickes, 1995. "Macroeconomics in Russia," in E. P. Lazear (ed.) Economic Transition in Eastern Europe and Russia, Hoover Press.

Conway, Patrick, 1995. "Currency Proliferation: The Economic Legacy of the Soviet Union," forthcoming, Princeton Studies in International Finance.

Dabrowski, Marek, 1995. "The Reasons for the Collapse of the Ruble Zone," Studies and Analyses #58, Center for Social and Economic Research, Warsaw, Poland.

de Melo, Martha, Cevdet Denizer, and Alan Gelb, 1996. "From Plan to Market: Patterns of Transition," World Bank Economic Review, September, World Bank, Washington, D.C.

Dittus, Peter, 1994. "Bank Reform and Behavior in Central Europe," Journal of Comparative Economics, Vol. 19, No. 3, December.

Easterly, W, and P. Vieira da Cunha, 1994. "Financing the Storm: Macroeconomic Crisis in Russia," Policy Working Paper #1240, Policy Research Department, World Bank, Washington, D.C.

Easterly, W., P. Mauro, and K. Schmidt-Hebbel, 1995. "Money Demand and Seignorage Maximizing Inflation," Journal of Money Credit and Banking, Vol. 22, No.2, May.

Easterly, William and Stanley Fisher, 1995. "The Soviet Economic Decline," World Bank Economic Review, No. 3, World Bank, Washington, D.C.

Easterly, W.,and Holger Wolf, 1995. "The Wild Ride of the Ruble," The World Bank, mimeo.

Farahbaksh, Mitra, and Gabriel Sensenbrenner, 1996. "Bank-by-Bank Credit Ceilings: Issues and Experiences", IMF Working Paper no. 63, International Monetary Fund, Washington, D.C.

Fischer, Stanley, 1982. "Seignorage and the Case for a National Currency," Journal of Political Economy, Vol. 90, No. 21.

Flood, Robert, P. and Michael Mussa, 1994. "Issues Concerning Nominal Anchors for Monetary Policy," IMF Working Paper no. 61, International Monetary Fund, Washington, D.C.

Fry, Maxwell, 1995. Money, Interest, and Banking in Economic Development, Johns Hopkins Press, Baltimore, Md.

Granville, Brigitte, 1995. "Farewell, Ruble Zone," in Aslund, Anders (ed.), Russian Economic Reform at Risk, Pinter Publishers, New York.

Gros, Daniel and Alfred Steinherr, 1995. Winds of Change, Longman Publishers, London.

Hilbers, Paul, 1993. "Monetary Instruments and Their Use During the Transition from a Centrally Planned to a Market Economy," IMF Working Paper WP\93\87, International Monetary Fund, Washington, D.C.

International Monetary Fund. Economic Outlook, various issues (October 1994, May 1995). Washington, D.C.

Kierzkowski, Henryk, E. Phelps, and G. Zoega, 1994. "Mechanisms of Economic Collapse and Growth in Eastern Europe," Working Paper no. 30, Polish Policy Research Group, Warsaw University, Warsaw.

King, Robert G. and Ross Levine, 1993. "Finance and Growth: Schumpeter Might Be Right," The Quarterly Journal of Economics, August.

Mathieson, Donald J. and Richard D. Haas, 1994. "Establishing Monetary Control in Financial Systems with Insolvent Institutions," IMF Paper on Policy Analysis and Assessment PPAA/94/10, International Monetary Fund, Washington, D.C.

Mckinnon, Ronald, 1973. Money and Capital in Economic Development, Brookings Institution, Washington, D.C.

Mellis, C.L., and M. Cornelius, 1994. "New Currencies in the Former Soviet Union: A Recipe for Hyperinflation or the Path to Price Stability?," Working Paper series, No. 26, Bank of England, London.

Nove, Alec, 1991. The Economics of Feasible Socialism Revisited, Harper Colins Academic Publishers.

Portes, Richard (ed.) 1993. Economic Transformation in Central Europe: A Progress Report, Centre for Economic Policy Research, London.

Quintyn, Marc, 1994. "Government Versus Central Bank Securities in Developing Open Market Operations," in Balino, T., and Carlo Cotterelli (eds.), Frameworks For Monetary Stability, International Monetary Fund, Washington, D.C.

Ratna, S, and C. Vegh, 1995. "Inflation and Stabilization in Transition Economies: A Comparison with Market Economies," IMF Working Paper, WP/95/8, International Monetary Fund, Washington, D.C.

Saal, Matthew I., and Lorena M. Zamalloa, 1994. "Use of Central Bank Credit Auctions in Economies in Transition," IMF Paper on Policy Analysis and Assessment PPAA/94/11, International Monetary Fund, Washington, D.C.

Saavalainen, T.O.,1995. "Stabilization in the Baltic Countries: A Comparative Analysis," IMF Working Paper, WP/95/44, International Monetary Fund, Washington, D.C.

Sahay, Ratna and Carlos Vegh, 1995. "Inflation and Stabilization in Transition Economies: A Comparison with Market Economies," IMF Working Paper No. 8, International Monetary Fund, Washington, D.C.

Shaw, Edward S., 1973. Financial Deepening in Economic Development, Oxford University Press, New York City.

Sundararajan, V., P. Dattels, I. McCarthy, M. Castello Branco, and H. Blommestein, 1994. "The Coordination of Domestic Public Debt and Monetary Management in Economies in Transition: Issues and Lessons from Experience," IMF Working Paper, WP/94/148, International Monetary Fund, Washington, D.C.

Thorne, Alfredo, 1993. "Eastern Europe's Experience with Banking Reform: Is There a Role for Banks in the Transition?," Journal of Banking and Finance, 17(5), pp. 959-1000.

World Bank, 1992. Mongolia: Towards a Market Economy, World Bank, Washington, D.C.

ANNEX 1

COUNTRY TABLES

ON THE

USE OF MONETARY POLICY INSTRUMENTS

ALBANIA
Country Table
Use of Monetary Policy Instruments

INSTRUMENTS	Use of Instruments during Transition		
	Late Socialism	Transitional	Market-oriented
A. DIRECT INSTRUMENTS			
1 **Directed credits**	credit plan was in place until 92	directed credit abandoned in 92; credit guarantees for some enterprises introduced in 93	guarantees discounted in 94
2 **Credit ceilings**	not used	bank-by-bank ceilings introduced in mid-92; tradeable since late 94	ceilings maintained and lowered in 94
3 **Interest rate controls on commercial bank deposit/lending rates**	fixed rates until mid-92	max. and min. rates since mid-92 aimed at keeping positive real rates	
B. INDIRECT INSTRUMENTS			
4 **Reserve requirements**	not used	introduced mid-92 at 10% for all deposits; poor compliance initially	rates unchanged since mid-92; by end 93 all banks are meeting RR
5 **Refinance window**	not used	introduced in 93 but limited use	
and Rediscount/Lombard facilities	not used		
6 **Gov't and CB bills and bonds**	primary market introduced in 7/94; limited		

ARMENIA

Country Table
Use of Monetary Policy Instruments

INSTRUMENTS		Use of Instruments during Transition		
		Late Socialism	Transitional	Market-oriented
A	**DIRECT INSTRUMENTS**			
1	**Directed credits**	operated under credit plan until 92	in 93 directed credit program transferred to MoF	directed credit abolished in 1/95
2	**Credit ceilings**	not used		
3	***Interest rate controls* on commercial bank deposit/lending rates**		fixed administered rates for directed credit between 92-1/95; minimum deposit and loan rates were introduced in 3/94	loan rate controls were removed in 6/94 and deposit rate controls in late 94
B.	**INDIRECT INSTRUMENTS**			
4	**Reserve requirements**		introduced in late 93; unified at 15% for all dram and FX deposits in late 94; Savings Bank is excluded	
5	**Refinance window**		preferential rates for directed credit until 94; auction introduced in 5/94 with interest rate minimum	auction redesigned and expanded in 2/95 without minimum interest rate
	and Rediscount/Lombard facilities	not used		
6	**Gov't and CB bills and bonds**	not used		

AZERBAIJAN

Country Table
Use of Monetary Policy Instruments

INSTRUMENTS	Use of Instruments during Transition		
	Late Socialism	Transitional	Market-oriented
A. DIRECT INSTRUMENTS			
1 **Directed credits**	used according to credit plan until 92	used extensively between 92-95; share decreasing since late 94	
2 **Credit ceilings**	not used		
3 **Interest rate controls on commercial bank deposit/lending rates**		3% margin for lending rates in 91, increased to 10% in 93	
B. INDIRECT INSTRUMENTS			
4 **Reserve requirements**		introduced in 91 w/ 15/12/10% by maturity; 4 largest banks exempt 7/93 extended to FX deposits; low compliance; RR extended to all banks in 1/94, high variability in 95	
5 **Refinance window**	preferential refinancing since 92	since 1/95 refinance at single rate	refinance rate based on auctions since 3/95
and Rediscount/Lombard facilities	not used		
6 **Gov't and CB bills and bonds**	not used		

BELARUS

Country Table
Use of Monetary Policy Instruments

INSTRUMENTS		Use of Instruments during Transition		
		Late Socialism	Transitional	Market-oriented
A.	**DIRECT INSTRUMENTS**			
1	***Directed credits***	*used according to credit plan* until 93	15% of DMB *loans must be for* investment in 94; CB directed credit continues at subsidized rates in 95	
2	**Credit ceilings**	not used	no bank-by-bank ceiling but a 5% of GDP ceiling on the CB credit to govt in 93	
3	**Interest rate controls on commercial bank deposit/lending rates**	a 3% margin between deposit and loan rates, later cancelled, lending rate set at 25% in 91; 9/94 margins controlled but changing; Savings Bank deposit rates controlled in 93-94	min. rates on time deposits in 10/94, average rates' margin reset at 3% in 1/95, raised to 5% in 6/95	
B.	**INDIRECT INSTRUMENTS**			
4	**Reserve requirements**		introduced in 88; 7/91 indicative ratios 15-12% by maturity; 2/92 raised to 20%; 2/93 RR differentiated by banks 8-15%; Saving Bank exempt in 10/93; 4/94 uniform for all banks 15% on DD and 10% on TSD;10/94 RR set at 5.5% and FX included;7/95 RR set at 12% on LC and 10% on FX deposits	
5	**Refinance window**	introduced in 91; preferential rates for directed credit	auctions started in 2/93; suspended in 10/93; resumed in 4/94; limited because of other cheap credit	
	and Rediscount/Lombardf acilities	not used		
6	**Gov't and CB bills and bonds**	gov't paper introduced 2/94; CB bills launched 6/95, primary markets only		

BULGARIA

Country Table
Use of Monetary Policy Instruments

INSTRUMENTS	Use of Instruments during Transition		
	Late Socialism	Transitional	Market-oriented
A. DIRECT INSTRUMENTS			
1 **Directed credits**		Agricultural loans directed through banks 91-95	
2 **Credit ceilings**		bank-by-bank ceilings introduced in 2/91; two large banks exempt but included in 1/92; ceilings made tradeable in 7/92	abandoned in 8/94
3 **Interest rate controls on commercial bank deposit/lending rates**	fixed rates abolished in 2/91		formally market determined but influenced by CB refinancing rates
B. INDIRECT INSTRUMENTS			
4 **Reserve requirements**		introduced at 7% in 2/91 on all types of deposits; no change between 2/91 - 8/94; upward drift and 3 changes between 8/94-8/95 increasing to 12%	
5 **Refinance window**	for agricultural loans at preferential rates since 1/91 to 1/95 date	some refinancing at the discount rate between 91-93; auctions of CB deposits at DMBs intoduced in 9/91 but terminated in 1994	
and Rediscount/Lombard facilities	introduced in late 91; funds limited to 90% of collateral's face value	funds limited to 70% of collateral's face value in 92	fully developed
6 **Gov't and CB bills and bonds**	introduced in 7/91	secondary market trading since 1993	OMO after 8/94

CROATIA

Country Table
Use of Monetary Policy Instruments

INSTRUMENTS	Use of Instruments during Transition		
	`Late Socialism	Transitional	Market-oriented
A. DIRECT INSTRUMENTS			
1 **Directed credits**	preferential credit to agriculture on demand between 6/91-4/92	quotas on preferential credit introduced in 4/92; and subsumed under general refinancing 1/93	
2 **Credit ceilings**			bank-by-bank ceilings used only between 5/95-7/95 to cope with a transitory surge in credit demand
3 **Interest rate controls on commercial bank deposit/lending rates**	not used		
B. INDIRECT INSTRUMENTS			
4 **Reserve requirements**		introduced in 12/91; DD and TD w/maturity less than 3 months 13%, other TSD 5.5%; obligatory NBC bills at 8.6% of all deposits subsumed under enforced RR; obligatory CB bills reintroduced early 95; as of 7/95 average RR was 34%	
5 **Refinance window**	a quarterly quota on ST refinancing 6/91-9/93	general purpose refinancing discontinued in 9/93	
and Rediscount/Lombard facilities		lombard facility introduced in late 93	
6 **Gov't and CB bill and bonds**	CB bills introduced in late 91; gov't bonds are long term and low interest, illiquid	no secondary trade in gov't securities; primary sales and secondary trade of CB bills	

CZECH REPUBLIC

Country Table
Use of Monetary Policy Instruments

INSTRUMENTS	Use of Instruments during Transition		
	Late Socialism	Transitional	Market-oriented
A. DIRECT INSTRUMENTS			
1 **Directed credits**	not used		
2 **Credit ceilings**		Bank-by-bank ceilings starting 1/91; ceilings terminated in 4/92 for small banks and 10/92 for big banks	
3 **Interest rate controls on commercial bank deposit/lending rates**		ceiling on lending rates introduced from 1/91 to 4/92	market-determined since 92
B. INDIRECT INSTRUMENTS			
4 **Reserve requirements**		introduced in 1990, high initial levels (16–18%); lowered and differentiated by deposit maturity in 2/92	unchanged since 8/94, DD:3%; TSD:12%
5 **Refinance window**		introduced in early 1991	auctions introduced in early 1992 and terminated in 6/94
and Rediscount/Lombard facilities		introduced in 93	fully developed since 94
6 **Gov't and CB bills and bonds**	introduced in early 1992	secondary market trade	OMO started since 93

ESTONIA

Country Table
Use of Monetary Policy Instruments

		Use of Instruments during Transition		
	UMENTS	Late Socialism	Transitional	Market-oriented
	DIRECT INSTRUMENTS			
1	**Directed credits**	not used		
2	**Credit ceilings**	not used		
3	**Interest rate controls on commercial bank deposit/lending rates**			fully market based since mid-92
B.	**INDIRECT INSTRUMENTS**			
4	**Reserve requirements**		introduced in late 1991 at 10% on all deposits	FX and government deposits subjected to RR in early-1994; strictly enforced
5	**Refinance window**	not used		
	and Rediscount/Lombard facilities	not used		
6	**Gov't and CB bills and bonds**	no government securities issued; budget surplus since 1991	CB CDs auctioned off to provide instruments for collateral since May 93	

FYR MACEDONIA

Country Table
Use of Monetary Policy Instruments

INSTRUMENTS	Use of Instruments during Transition		
	Late Socialism	Transitional	Market-oriented
A. DIRECT INSTRUMENTS			
1 **Directed credits**	not used	between 4/92-3/94 credit directed to agriculture and export finance subject to quotas	
2 **Credit ceilings**	not used	bank-by-bank ceilings, not tradeable, introduced in 94	
3 **Interest rate controls on commercial bank deposit/lending rates**			market determined rates since monetary independence in 4/92
B. INDIRECT INSTRUMENTS			
4 **Reserve requirements**	minimum liquidity ratio (quasi RR)introduced in 91 at 2.5%	RR introduced at 15–30% for DD, 5.5% for TSD in 92;	declined to 8% for DD, 3.5-5.5% for TSD by 1994; enforced
5 **Refinance window**		prior to 94 all selective credits automatically refinanced at single rate	
6 **Rediscount/Lombard facilities**	not used	discount facility introduced 93/94	
7 **Gov't and CB bills and bonds**	compulsory CB bills intoduced in 92; primary T-bills auctions since 1/94		

GEORGIA

Country Table
Use of Monetary Policy Instruments

INSTRUMENTS		Use of Instruments during Transition		
		Late Socialism	Transitional	Market-oriented
A.	**DIRECT INSTRUMENTS**			
1	**Directed credits**	used according to credit plan	used directly for firms and through banks at preferential rates in 92 and 93	practically eliminated by late 94
2	**Credit ceilings**		bank-by-bank ceilings introduced in early 92 abandoned in late 92	
3	**Interest rate controls on commercial bank deposit/lending rates**		formally liberalized in 91, except the Savings Bank	market determined by mid-94
B.	**INDIRECT INSTRUMENTS**			
4	**Reserve requirements**		introduced in 91 at 5 to 10%; state banks de facto exempt; lax enforcement; increased to 20% on local currency deposits in 93; FX deposits became subject to RR in early 94 at 15%; increased to 20% in late 94; RR compliance improved in 95	
5	**Refinance window**	not used	refinancing auction introduced in 12/93 and suspended in 5/94	auctions resumed in 4/95; interbank auction introduced in 5/95
	and Rediscount/Lombard facilities	not used		
6	**Gov't and CB bills and bonds**	not used		

HUNGARY

Country Table
Use of Monetary Policy Instruments

INSTRUMENTS		Use of Instruments during Transition		
		Late Socialism	Transitional	Market-oriented
A.	**DIRECT INSTRUMENTS**			
1	**Directed credits**	preferential program since 1989	sectoral coverage of preferential programs reduced sharply by 93; pre-export finance and privatization credits put in place at low rates	By 95 directed credit less than 25% of total and diminishing in importance
2	**Credit ceilings**		bank-by-bank credit ceilings in place in 89; eliminated in late 91	
3	**Interest rate controls on commercial bank deposit/lending rates**	fixed rates for enterprises until 87 and for households until 91/92		market determined since 93
B.	**INDIRECT INSTRUMENTS**			
4	**Reserve requirements**		introduced with differentiated rates in 87; simplified and unified in 90 at 18%; changed 5 times between 90-95 and reduced to 12% in late 94; increased to 14% in 2/95	
5	**Refinance window**	automatic access and preferential rates used for selected activities since 89	quotas on automatic refinancing of selected activities introduced in 91; switch to refinance auctions also in late 91; multiple refinancing rates exist but their importance is declining	
	and Rediscount/Lombard facilities			discount rate applicable to non-directed credit; **lombard** facility introduced in 93
6	**Gov't and CB bills and bonds**	introduced in 88	secondary market dominated by CB; significant direct sales to general public in 94	OMO used since 90; OMO became main policy instrument was in 93 when repos and reverse repos were introduced

KAZAKSTAN

Country Table
Use of Monetary Policy Instruments

INSTRUMENTS		Use of Instruments during Transition		
		Late Socialism	Transitional	Market-oriented
A.	**DIRECT INSTRUMENTS**			
1	Directed credits	used according to credit plan until 92	bank-by-bank quotas since 92; one-time direct lending to enterprises to clear their arrears; tightening of quotas late 94.	virtually eliminated in early 1995
2	**Credit ceilings**		bank-by-bank ceilings 12/90 often exceeded until late 94	ceiling put on CB net domestic assets in 95
3	**Interest rate controls on commercial bank deposit/lending rates**	fixed interest rates before 92	formally market determined since 93, but heavily influenced by subsidized CB refinance rates for most directed credit	mainly market determined since 95
B.	**INDIRECT INSTRUMENTS**			
4	**Reserve requirements**		introduced in 91, differentiated up to 15%; unified at 18% in 92 increased to 30% in 94 for domestic deposits and 15% RR imposed on FX deposits	RR unified at 20% on all types of deposits in 2/95
5	**Refinance window**		introduced in 91 on a quota basis; switch to monthly auctions since 1/93; intentions to auction all CB credit since 4/95 not yet achieved	
	and Rediscount/Lombard facilities			introduced in 9/95
6	**Gov't and CB bills and bonds**		secondary market trade started in the second half of 95	short term CB bills introduced in 6/95; used for sterilization of FX inflows

KYRGYZ REPUBLIC

Country Table
Use of Monetary Policy Instruments

INSTRUMENTS	Use of Instruments during Transition		
	Late Socialism	Transitional	Market-oriented
A. DIRECT INSTRUMENTS			
1 **Directed credits**	used according to credit plan until 92 at preferential rates	bank-by-bank credit quotas since 91	directed credit virtually eliminated since late 94
2 **Credit ceilings**	not used	bank by bank credit ceiling set to zero in 94	ceilings in CB NDA in 95
3 **Interest rate controls on commercial bank deposit/lending rates**	rates of Savings Bank fixed until end-91	since 92/93, rates liberalized except directed credit	virtually all interest rates are market determined since late-94
B. INDIRECT INSTRUMENTS			
4 **Reserve requirements**		introduced in 91, differentiated up to 15%, limited application; rates progressively raised to 30% RR enforced since early 95 at continuing high rates	
5 **Refinance window**		introduced at single rate in late 93 but tightly controlled	
and Rediscount/Lombard facilities		introduced 8/93 for limited short-term borrowing; emergency liquidity facility introduced late 94	fully developed since early 95
6 **Gov't and CB bills and bonds**	introduced 5/93 at fixed interest rates; maturities lengthened and fixed interest rates abolished since mid-94		

LATVIA

Country Table
Use of Monetary Policy Instruments

INSTRUMENTS	Use of Instruments during Transition		
	Late Socialism	Transitional	Market-oriented
A. DIRECT INSTRUMENTS			
1 **Directed credits**	used according to credit plan until mid 92	phased out gradually after curency reform in mid-92	eliminated by 93
2 **Credit ceilings**		quarterly ceiling on CB NDA w/ indicative ceilings on banking systems' NDA between 7-12/92	CB NDA ceiling replaced by quarterly base money ceiling in 93; the former reinstated in mid-94 plus indicative ceilings on base money and NDA of the banking system
3 **Interest rate controls on commercial bank deposit/lending rates**			DMBs liberalized interest rates and Bank of Latvia discontinued all subsidized lending in mid-92
B. INDIRECT INSTRUMENTS			
4 **Reserve requirements**		introduced in 91 at 15% on all deposits; RR increased to 20% and differentiated in 7/92	unified and lowered to 8% including FX deposits in 7/93; enforced
5 **Refinance window**		refinance facility available at the discount rate in 91; switch to auctions in late 93; emergency refinance facility introduced in 2/95	
and Rediscount/Lombard facilities	not used	Lombard introduced in mid-93 with rate 5% above the discount rate	since 10/95 all refinancing required collateral
6 **Gov't and CB bills and bonds**	primary market started in 12/93	secondary trade window introduced at CB in 4/94, limited OMO; interest ceiling eliminated 6/95	

LITHUANIA

Country Table
Use of Monetary Policy Instruments

INSTRUMENTS	Use of Instruments during Transition		
	Late Socialism	Transitional	Market-oriented
A. DIRECT INSTRUMENTS			
1 **Directed credits**	Used in very small amounts under certain occasions under directions from government or parliament		
2 **Credit ceilings**		tradeable bank-by-bank ceilings and ceiling on net domestic assets of the CB introduced in 92	bank-by-bank ceilings removed in 7/93; CB net domestic asset ceiling discontinued after 3/94 with the introduction of currency board
3 **Interest rate controls on commercial bank deposit/lending rates**		lending rate ceilings until 2/92 then replaced by a minimum deposit rate; ceiling on lending rates put back in 9/93	market determined by 95
B. INDIRECT INSTRUMENTS			
4 **Reserve requirements**		introduced in 92 at 10% on all deposits; increased to 12% and extended to FX deposits in 93; strictly enforced	reduced to 10% in 4/95
5 **Refinance window**	not used		auction based since 5/93
and Rediscount/Lombard facilities	not used		
6 **Gov't and CB bills and bonds**	introduced in 7/94, mostly 1-3 month bills		

MOLDOVA

Country Table
Use of Monetary Policy Instruments

INSTRUMENTS	Use of Instruments during Transition		
	Late Socialism	Transitional	Market-oriented
A. DIRECT INSTRUMENTS			
1 **Directed credits**	used according to the credit plan through 91	during 92-93 credit was directed to agro-industry, agriculture and energy sectors at preferential rates; by end 94 directed credit declined to 30% of total	
2 **Credit ceilings**	not used		
3 **Interest rate controls on commercial bank deposit/lending rates**		ceiling on DMB loan rates introduced in 1/92; margins imposed for lending rates between 11/93-4/94	rates liberalized after 4/94 for other than directed credit; rates heavily influenced by CB auction rate
B. INDIRECT INSTRUMENTS			
4 **Reserve requirements**	not used	introduced in 93; 5 changes between 93-94; DD 10-28, TSD 7.5-17%	RR unified at 12% on all deposits in 12/94
5 **Refinance window**		introduced in late 92	switch to auction determined refinance rates in 11/93
and Rediscount/Lombard facilities	not used		
6 **Gov't and CB bills and bonds**	primary market introduced in 94; small amounts		

MONGOLIA

Country Table
Use of Monetary Policy Instruments

INSTRUMENTS		Use of Instruments during Transition		
		Late Socialism	Transitional	Market-oriented
A.	**DIRECT INSTRUMENTS**			
1	**Directed credits**	used according to the credit plan until 91	issued to priority sectors and oil imports at low rates; volume 1/3 of the total in 93	terminated in mid-94; a CB facility used for the purpose terminated in 1/95
2	**Credit ceilings**		bank-by-bank ceilings introduced in 1/91; removed in 5/91; reinstated in late 92; on monthly basis since 9/93; still used as of end-95	
3	**Interest rate controls on commercial bank deposit/lending rates**		DMB rates liberalized in 8/91; min. deposit rate introduced in late-92	non-binding guidelines to reduce DMBs spread to 5% in 94
B.	**INDIRECT INSTRUMENTS**			
4	**Reserve requirements**		introduced in 8/91 at 20% on business deposits, 15% household DD, 5% on TSD; 8/93 RR unified at 14%; 6/94 raised to 17%	
5	**Refinance window**	general refinancing available at preferential rates		regular auction refinancing at market-determined rates since 3/95
	and Rediscount/Lombard facilities		ST liquidity credit issued via a clearing window 93-95; limits on its use since 1/95	
6	**Gov't and CB bills and bonds**	11/93 CB introduced its bills; used frequently		

POLAND

Country Table
Use of Monetary Policy Instruments

INSTRUMENTS	Use of Instruments during Transition		
	Late Socialism	Transitional	Market-oriented
A. DIRECT INSTRUMENTS			
1 **Directed credits**		used for priority sectors since 80s	discontinued by 93
2 **Credit ceilings**		informal bank-by-bank ceilings 89-early 93	
3 **Interest rate controls on commercial bank deposit/lending rates**	fixed administered rates until 8/89 for priority sectors	basically liberalized in 1/90 but strongly influenced by CB	market determined since early 93
B. INDIRECT INSTRUMENTS			
4 **Reserve requirements**		introduced 1/90 w/ high and changing levels; range; DD 9-30%; TD 5-15%; SD 5-10%; in late 94 lowered DD 20%	
5 **Refinance window**	available at preferential rates since 1/90	refinance operations more market oriented	fully developed
and Rediscount/Lombard facilities		available since 8/90	
6 **Gov't and CB bills and bonds**	CB bills introduced 7/90 and replaced by gov't bills in 5/91	1-3 year bonds introduced in 92; limited secondary market	OMO since early 93; fully developed

ROMANIA

Country Table
Use of Monetary Policy Instruments

INSTRUMENTS	Use of Instruments during Transition		
	Late Socialism	Transitional	Market-oriented
A. DIRECT INSTRUMENTS			
1 **Directed credits**	special credit to deal w/ interenterprise arrears end 91; repaid mid-92	92-/93 special credit lines for LT credit to various sectors at preferential rates	special credit lines marginalized in 8/93; some directed credit at the official discount rate still available in 1995
2 **Credit ceilings**		used for some time in 91 but lifted in the second half of 92	
3 **Interest rate controls on commercial bank deposit/lending rates**		Savings Bank rates controlled for some time	market determined by 1995
B. INDIRECT INSTRUMENTS			
4 **Reserve requirements**		introduced for enterprise deposits in 92; 12/92 RR extended to HH deposits; generally enforced; FX deposits included in early-94; govt. deposits exempt	
5 **Refinance window**		for ST at the discount rate introduced in 92; auctions started in 92, rates can not fall below discount rate; limits on each bank's share in auction credit	as of 1995 - weekly refinancing auctions are held
and Rediscount/Lombard facilities		not used. A very short term and collateralized emergency facility introduced in 92	
6 **Gov't and CB bills and bonds**	primary market started in 3/94		

RUSSIA

Country Table
Use of Monetary Policy Instruments

INSTRUMENTS	Use of Instruments during Transition		
	Late Socialism	**Transitional**	**Market-oriented**
A. DIRECT INSTRUMENTS			
1 **Directed credits**	used intensively for various sectors	declining importance since 94	directed credit under 10% of total in the first half of 95
2 **Credit ceilings**		quarterly ceilings on CB credit to DMBs since 93; reasonably enforced in 94	ceiling on the CB's NDA in 94
3 **Interest rate controls on commercial bank deposit/lending rates**	Savings Bank rates fixed and 25% limit on lending rates in 91	all controls on DMB rates lifted except for Savings Bank in 1/92 and a margin for directed credits	market determined by 95
B. INDIRECT INSTRUMENTS			
4 **Reserve requirements**	with Savings Bank exempt introduced in 91 at 2%	raised to 10-15% according to maturity in 2/92; to 15-20% in 4/92 including Savings Bank	2/95 adjusted to 10-22%
5 **Refinance window**	introduced in 91	liquidity refinancing at ?? rate started in 92	auctions introduced in 2/94
and Rediscount/Lombard facilities			Lombard expected end 95
6 **Gov't and CB bills and bonds**	introduced in 91; negligible amounts until 94	6/94 emergence of a secondary market; foreign participation restricted	

SLOVAK REPUBLIC

Country Table
Use of Monetary Policy Instruments

INSTRUMENTS	Use of Instruments during Transition		
	Late Socialism	Transitional	Market-oriented
A. DIRECT INSTRUMENTS			
1 **Directed credits**	not used		
2 **Credit ceilings**		bank-by-bank ceilings introduced 1/91 and terminated in 92; reintroduced 1/93 and largely eliminated in 12/94	
3 **Interest rate controls on commercial bank deposit/lending rates**		ceilings on lending rates introduced 1/91; abandoned in 4/92	market determined since 4/92
B. INDIRECT INSTRUMENTS			
4 **Reserve requirements**		introduced in 90, 16-18% on all deposits but not effective; 2/92 lowered and differentiated 2-9%; continuing difficulties w/ compliance	
5 **Refinance window**	introduced 91; preferential refinance for exports and agriculture important in 93	auctions introduced in early 92	after 12/93 mainly auction based w/ occassional suspensions
and Rediscount/Lombard facilities		introduced 93	since 12/93 fully developed at 1% above auction rate
6 **Gov't and CB bills and bonds**	introduced early 92	secondary market trade dominated by CB	since early 95 active OMO w/ CB bills

SLOVENIA

Country Table
Use of Monetary Policy Instruments

INSTRUMENTS	Use of Instruments during Transition		
	Late Socialism	Transitional	Market-oriented
A. DIRECT INSTRUMENTS			
1 **Directed credits**	not used		
2 **Credit ceilings**		used only in 10/91	
3 **Interest rate controls on commercial bank deposit/lending rates**	not used		
B. INDIRECT INSTRUMENTS			
4 **Reserve requirements**			relatively low and stable since 2/92; 12/6/2/1/0 according to maturity detailed FX cover regulations
5 **Refinance window**		in 92-93 special liquidity credits for 3 troubled banks	
6 **Rediscount/Lombard facilities**	introduced 10/91 but limited to 5% DMB CB bill holdings	lombard introduced 7/92 w/ some restrictions	
7 **Gov't and CB bills and bonds**	gov't bonds introduced? LC and FX CB bills introduced in 91		

TAJIKISTAN

Country Table
Use of Monetary Policy Instruments

INSTRUMENTS	Use of Instruments during Transition		
	Late Socialism	Transitional	Market-oriented
A. DIRECT INSTRUMENTS			
1 **Directed credits**	used according to the credit plan until 91	used extensively in 91-95 with interest free credits extended to priority sectors and gov't	
2 **Credit ceilings**	not used	ceiling on CB NDA but not observed; 2/95: a 60-day freeze on all lending to the economy and the budget, followed by bank-specific credit ceilings	
3 **Interest rate controls on commercial bank deposit/lending rates**		92: DMB lending rates limited to 6% over CB refinancing rate; deposits rates free except Savings Bank; loan rates to private sector freed in 93 except priority sectors; 95: all rates liberalized except those for relending directed credit to the economy	
B. INDIRECT INSTRUMENTS			
4 **Reserve requirements**		introduced in 11/91:15/12/ 10/0 % depending upon maturity; Savings Bank exempt	
5 **Refinance window**	introduced in 91; preferential rates for almost all public sector firms; highly negative in real terms	a temporary liquidity facility established in 95 to assist inn case of large cash withdrawals; new currency introduced in 5/95	
and Rediscount/Lombard facilities	not used		
6 **Gov't and CB bills and bonds**	not used		

TURKMENISTAN

Country Table
Use of Monetary Policy Instruments

INSTRUMENTS	Use of Instruments during Transition		
	Late Socialism	Transitional	Market-oriented
A. DIRECT INSTRUMENTS			
1 **Directed credits**	used according to the credit plan until 92	new directed credit policy channels CB funds through banks at low rates despite high inflation; decreasing importance in 95	
2 **Credit ceilings**	not used		
3 **Interest rate controls on commercial bank deposit/lending rates**	fixed in 90-91 with a 3% margin between deposit and loan rates	since 1/92 nominally liberalized rates, but continued controls for directed credit and savings deposits; lending rates capped at 15% in 2/95	
B. INDIRECT INSTRUMENTS			
4 **Reserve requirements**		introduced in 92 with major exemptions: DD 15%, TD 10%; uniformly set 20% in 11/93; 2/94 RR differentiated and lowered; increased in 1/95	1/96: unified at 11% on all types of deposits
5 **Refinance window**	automatic access for directed credits at concessional rates	auctions introduced in 8/93; not successful due to availability of cheap financing	as of 1/96, all CB refinancing is to be channeled through auctions
and Rediscount/Lombard facilities	not used	rediscounting possible, but rarely done as a matter of policy	
6 **Gov't and CB bills and bonds**	not used: the CB finances the budget on demand		

UKRAINE

Country Table
Use of Monetary Policy Instruments

INSTRUMENTS	Use of Instruments during Transition		
	Late Socialism	Transitional	Market-oriented
A. DIRECT INSTRUMENTS			
1 **Directed credits**	used acording to credit plan until 92	used regularly in 92-94; DMBs required to lend 10% of their credits to agriculture	stopped in principle in 95, except occasional loans to the budget
2 **Credit ceilings**		10/94 CB NDA ceiling introduced; also ceiling on the net banking system credit to gov't	
3 **Interest rate controls on commercial bank deposit/lending rates**		margins on lending rates, 3% in 91; no formal controls on deposit rates but dominated by Savings Bank rates; ceiling on lending rates in 94	
B. INDIRECT INSTRUMENTS			
4 **Reserve requirements**		introduced in 91 at 10% only on DD; 1/92 raised to 15%, weak enforcement; reset at 25% in 3/93 w/ better enforcement; 9/93 temporary additional 7% RR introduced; 3/94 lowered to 15%	
5 **Refinance window**	introduced in 91 at preferential rates	auctions introduced in 5/93; refinancing rates closely aligned with auction rate	10/94 all refinancing became auction based
and Rediscount/Lombard facilities	not used		
6 **Gov't and CB bills and bonds**	introduced in 3/95; small volumes; CB also issued CDs		

UZBEKISTAN

Country Table
Use of Monetary Policy Instruments

		Use of Instruments during Transition		
INSTRUMENTS		**Late Socialism**	**Transitional**	**Market-oriented**
A.	**DIRECT INSTRUMENTS**			
1	**Directed credits**	based on the credit plan until 92	highly subsidized rates for priority sectors via DMBs; directed credit share began to decline in 95	
2	**Credit ceilings**	not used		
3	**Interest rate controls on commercial bank deposit/lending rates**		formally deposit rates freed in 92, except Savings Bank; caps on loan rates; subsidized CB loans discontinued but interest subsidy provided by MoF	
B.	**INDIRECT INSTRUMENTS**			
4	**Reserve requirements**		introduced in 8/91; 15% on DD, 12 % on TD, and 0% on deposits more than 3 years; poor compliance; in 5/94 RR increased to 30% on deposits less than 3 years and 10 percent on rest	
5	**Refinance window**	used in conjunction with directed credit policy at subsidized rates	refinancing auction introduced in 8/93 on a very limited basis; expanded by 95 but preferential rates remain	
	and Rediscount/Lombard *facilities*	not used		
6	**Gov't and CB bills and bonds**	not used		

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